The University of Hull

Introducing Computer Supported Co-operative Learning to the Curriculum of Islamic Studies and Arabic Language in Arabic Language Institute for Non-Arabic Speakers : Teachers' Perceptions, Students' Responses and Administrators' Views

Being a Thesis submitted for the Degree of Doctor of Philosophy in the University of Hull

by

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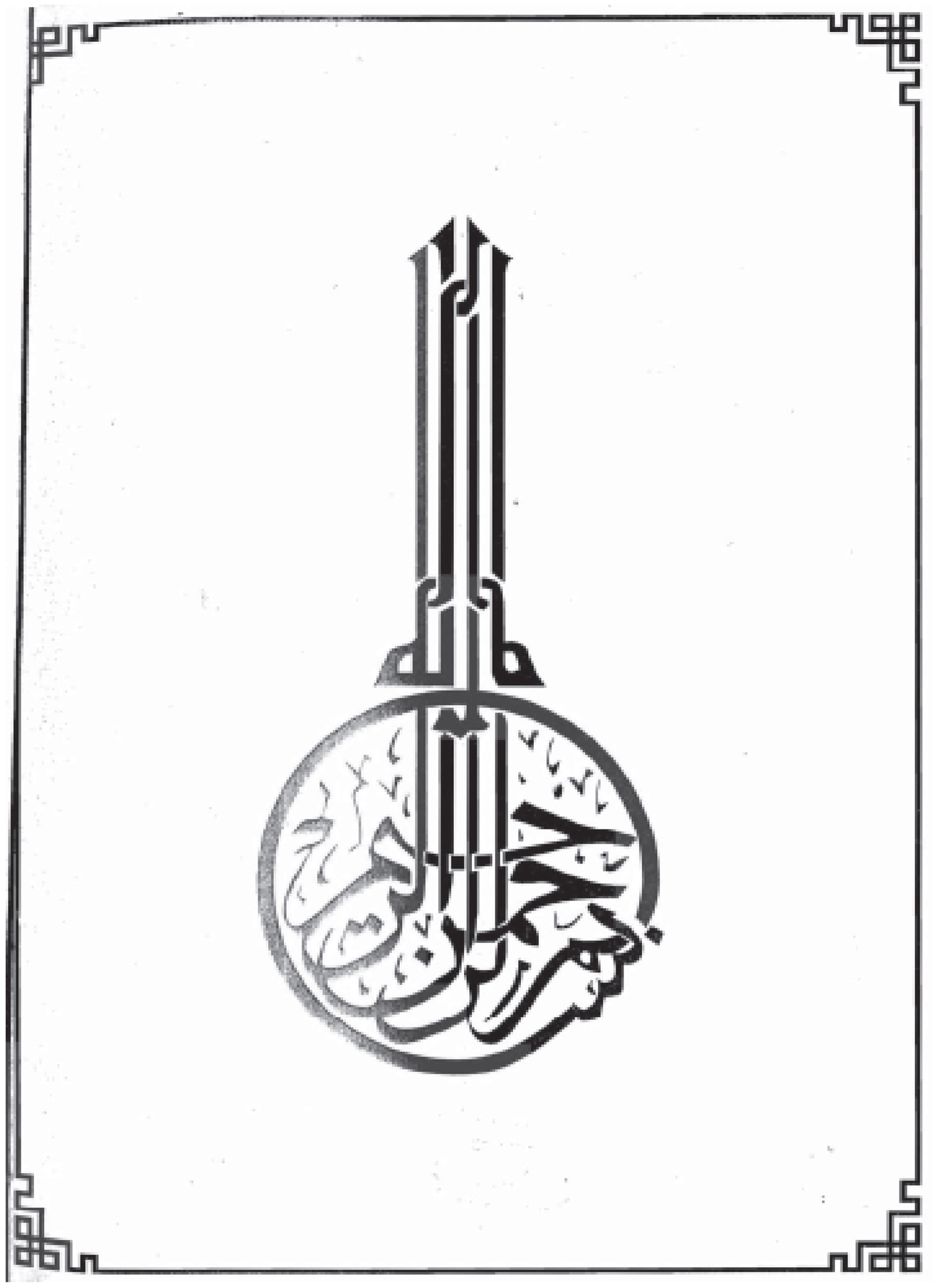

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سيدي الوالد

Abstract

The Saudi education system is facing a climate of change and interest in exploiting new technology and educational approaches to improve teaching and learning. In this climate, the present study explores the feasibility of introducing computer assisted co-operative learning at the Language Institute of Umm Al-Qura University, in terms of teacher attitudes to computers and their experience with/attitudes towards co-operative learning; administrative support for such innovation; and students' responses to a co-operative learning environment.

A four-part Likert-type questionnaire was administered to 148 teachers of Arabic and Islamic Studies from four universities, to investigate their positive and negative attitudes to computers, feelings about computers' usefulness, and intimidation about using computers. At Umm Al-Qura University, views on co-operative learning were obtained from 35 teachers of Arabic and Islamic Studies, by means of interviews. Interviews were carried out with five senior administrators at the university, regarding development in curricula and teaching methods, including training and staff development needs and funding issues. Twenty-two students of elementary Arabic from the University's Language Institute took part in computer assisted cooperative learning sessions, using software developed by the researcher and were observed and interviewed.

Teachers, irrespective of personal and professional characteristics, generally had positive attitudes to computers, while administrators claimed that efforts to provide computer access and training to teaching staff were underway. Teachers also had generally positive attitudes to cooperative learning, and some sceptics were won over by the sight of their students participating actively and with enjoyment in the sessions

conducted by the researcher. There was however evidence of reluctance by teachers to give students responsibility for their learning. Teachers and administrators blamed each other for what they saw as stagnation in educational approaches, but both groups favoured change.

The researcher concludes that the introduction of computer-assisted cooperative learning supported by appropriate training could benefit both students and teachers and offers recommendations for its implementation.

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CHAPTER ONE

INTRODUCTION

INTRODUCTION

1.1. Background

This study investigates the potential for introducing computer-assisted co-operative learning in courses in Arabic as a foreign language at the Language Institute attached to Umm Al-Qura University, Saudi Arabia.

In a world where 'change' is the standard and stability is the exception, and the accumulating knowledge and information is beyond any teacher's capability to convey to students, there is an apparent need to develop learners' ability to gain and construct their knowledge themselves. Now, at the beginning of the twenty-first century, we have entered the informatics age, where many believe that the whole world is becoming a global village. Computers are involved in every aspect of modern life, including education. For example, the guidelines of the National Curriculum for England and Wales (DFE, 1995) report that students should have the chance to use computers in all core curriculum subject areas. In the Kingdom of Saudi Arabia, a developing country, many calls have been made to spread the use of computers in all stages of education. In a recent meeting with educational leaders in Saudi Arabia, prince Abdullah bin Abdulaziz, the crown prince and the person in charge of interior affairs, said: "Computers and the Internet have captured the world at an extraordinary speed that could not be imagined by the human mind. Thus, we, in the Kingdom of Saudi Arabia, should not be isolated in keeping up-to-date with current knowledge in order to stand beside advanced countries.. . computers must be part of the educational methods in all teaching and learning stages in our country" (Aljazeerah, April 21, ...).

However, the debate continues about the best way to use computers in classrooms (Hooper and Rieber, 1995; Lee, 1999). Co-operative learning appears to be a successful approach, whether or not computers exist in the classroom. There are many researchers who believe that the advantages of co-operative learning in the ordinary classroom are transferred to technology rich classrooms. Co-operative learning has the potential to prepare students for the future in several respects. The major feature that characterises co-operative learning is the transition from a teacher-centred to a more student-centred approach to learning in which students take more responsibility in acquiring knowledge, rather than solely depending on teachers. In addition to improving students' social skills, which helps to prepare them for their future work environment, co-operative learning appears to resolve the concerns about social isolation which have been voiced in relation to computers (Hooper, 1992).

1.2. Motivation and Rationale for the Study

If someone had proposed introducing computer supported co-operative learning several years ago in Saudi Arabia, it would have been treated as a mere fantasy. But, in recent years, there has been an injection of fresh blood in the whole Saudi system and particularly in the Saudi educational system. In 1414 (1996), the first change in government for more than twenty years took place. This event was marked by a significant and sweeping change in educational leadership. There was a new minister for education and a new general president for the General Presidency of Girls' Education. In addition, the rectors of the seven universities existing at that time were replaced (an eighth university was established after that date). Some of these rectors had been in their posts since their universities were established. At Umm Al-Qura University, where the researcher works as a lecturer, several initiatives have, since that change, been undertaken to develop teaching and learning. Many previously unheard-of

activities are taking place, such as training teachers on computers and curriculum development. The researcher aims to draw attention to a co-operative learning approach that could have great impact on approaches to using computers and on teaching methods in general. Co-operative learning is considered to be a recent approach in formal learning. However, research evidence (Osborne, 1998; Hanko, 1999; Snowman and Biehler, 2000; Wilson, 2000) suggests that it is beneficial, socially and academically.

Until recently, both in the Saudi universities and in the general education stages, the lecture method of teaching has predominated. Many complaints have been raised with regard to the negative outcomes associated with this traditional method, which does not give learners the opportunity to be independent and to construct their own knowledge, but limits their role to memorisation and recitation of information. A co-operative learning approach may provide an answer to these concerns.

Recently, too, there have been calls (*Mari and Al-Heelah, 1998; Collins, 1991; Al-Joudi, 2000*) to use computers in classrooms, but often these have reflected a very narrow view of the potential of computers. Some writers, at the other extreme (*Alnadwah, 2000; Al-Ma'arifah, Feb 2000*), suggest using computers to replace teachers. This view is not practical since the equation of one computer per student is not an attainable one, and at the same time there are concerns that social isolation would result from such a teaching/learning environment. Again, a co-operative learning approach may provide an answer.

This study aims to respond to the current climate of change in Saudi universities to improve the teaching and learning process, by conducting an empirical investigation of the feasibility and desirability of introducing co-operative work around computers at the post secondary level.

1.3. Objectives of the Study

The main objective of this research is to investigate the possibility of introducing computer supported co-operative learning in the curriculum of the Arabic Language Institutes of Arabic Language for Non-Arabic Speakers. To attain this principal objective, the study was designed to be a multi-perspective one, focusing on the perceptions of all stakeholders relevant to this topic: teachers, administrators and students. For teachers, the study examines the following issues:

- teacher training for and experience of co-operative learning strategies in Saudi university education;

- teachers' views of the status of co-operative learning strategies with regard to control in the classroom, students' ability to assume responsibility for their own learning, and teachers' willingness to modify their own role;

- teachers' views about the benefits of implementing co-operative learning, as well as the classroom arrangement and anticipated problems.

- teachers' views about the necessary conditions for the successful implementation of co-operative learning, whether with regard to teachers or to students.

- teachers' attitudes to computers in education, which may be expected to influence the implementation of computer supported co-operative learning.

With regard to administrators, the study aims to explore their plans to introduce computers, for both learning and administrative support, their willingness to support innovations, and their perceptions of teachers' training and development needs.

The third and very important group is students. Ultimately, they are the ones who are affected by any effort to change the teaching and learning process. The current study examines their reactions to co-operative learning activities around computers, based on observations and interviews.

By exploring these three perspectives, the principal aim of the study will be answered.

1.4. Overview of the Thesis

The dissertation is presented in eight chapters followed by a conclusion, as follows:

Chapter Two provides background information about the context in which the present study was carried out, namely, language institutes for non-Arabic speakers, located within Saudi Arabian universities. After a brief introduction to university education in the Kingdom and to each of the eight universities, the chapter outlines the aims, departmental structure and programmes of the language institutes. Teaching and learning styles in the universities are discussed, and the Islamic traditions in relation to co-operative and learner responsibility are explored.

Chapter Three is a literature review which establishes the conceptual background to this study by overviewing theoretical writings and previous empirical studies, on the co-operative model of learning, including its theoretical basis, key elements and methods of operationalisation, as well as its implications for the teacher's role. Literature on computers in education is also reviewed, since it is a computer-supported form of co-operative learning which is the focus of this study.

In Chapter Four, the research design and methodology are explained, highlighting the use of triangulation, both of perspectives (teachers, administrators and students) and of methods (interview, questionnaire and observation).

Four chapters are devoted to reporting the outcomes of the various strands of the empirical investigation, beginning in Chapter Five with the findings from a questionnaire administered to teachers, to find out their attitudes to computers, in terms of positive attitude, feelings of intimidation, belief in computers' usefulness, and negative attitudes. Relationships between teachers' attitudes to computers and their personal and professional characteristics are also explored.

Chapter Six presents the findings from interviews held with teachers regarding their experience of and attitudes towards co-operative learning. Their perceptions of the co-operative learning classroom and of students' ability to take responsibility for their own learning are explored, as are their views as to the necessary conditions for effective co-operative learning, and the problems they anticipate in attempting to implement it.

In Chapter Seven, the perspective shifts to educational administrators in Umm Al-Qura University and its language institute. Reports are presented of interviews in which curriculum development and acceptance of innovation in teaching were discussed. The chapter thus provides an indication whether the introduction of a new approach such as computer assisted co-operative learning would receive institutional acceptance and support, and what financial or other constraints may face such an initiative.

Chapter Eight considers the other party in the educational process, the students. The outcome of experimental sessions of co-operative learning with computers is described, in terms of the nature of students' interactions and their adherence to the set task. Students' affective responses to co-operative learning, and its social impact, as revealed in interviews and observations, are also reported.

In Chapter Nine, information and ideas obtained from the three stakeholder groups are brought together and considered in the context of related literature. Issues addressed

include the use of computers as an educational tool in higher education, issues raised with regard to co-operative learning, including implications for teacher training and the importance of administrative support. An impasse is identified, arising from conflicting perceptions of the stakeholder groups, regarding obstacles to improvement, and ways of overcoming it are suggested.

A conclusion highlights the main issues and findings of the study, presents recommendations and offers thoughts on directions for future research.

CHAPTER TWO

CONTEXT OF THE STUDY

CONTEXT OF THE STUDY

Introduction

This chapter establishes the context in which the present study was carried out, namely, language institutes for non-Arabic speakers, located within Saudi universities. It begins with brief background information on university education in the Kingdom of Saudi Arabia, followed by details of each of the Kingdom's eight universities. The second part of the chapter focuses specifically on the language institutes attached to four of these universities, outlining their aims, departmental structures and programmes. The chapter continues with a discussion of the teaching styles in use at these universities and institutes and ends with an exploration of the feasibility of co-operative learning in relation to Islamic traditions.

2.1. Universities in Saudi Arabia

The introduction of higher education in the Kingdom began with the establishment of the College of Shariah in Makkah, in 1949, and the Teachers' College, in 1952. However University and College education is a recent phenomenon in the Kingdom. The system has expanded to include eight universities (Saudi Arabian Cultural Mission, 1991). All higher education in the Kingdom of Saudi Arabia is funded, planned and monitored by the government, represented by the Ministry of Higher Education. There are eight Saudi universities. The oldest one was established in 1957, while the newest was established two years ago.

2.1.1. The King Saud University

This university was established in Riyadh in 1957. As the oldest in the Kingdom, the King Saud University is known as the "Mother University'. This university plays a dynamic role in education. It offers several subjects at undergraduate and postgraduate levels through eighteen colleges with seventy-seven specialist areas (Ministry of Higher Education, 1986). These colleges are: the College of Administrative Sciences, the College of Allied Medical Sciences, the College of Agriculture, the College of Agriculture and Veterinary Medicine (in Qaseem), the College of Arts, the College of Business and Economics (in Qaseem), the College of Computer and Information Sciences, the College of Dentistry, the

College of Education, the College of Education (in Abha), the College of Engineering, the College of Medicine, the College of Medicine (in Abha), the College of Pharmacy, the College of Planning and Architectural Design, the College of Sciences, The Arabic Language Institute, and the Graduate School.

2.1.2. The Islamic University at Madinah

This University was established in 1961 and it is an international institution for Islamic studies. It was founded to instruct Muslim students coming from all over the world, from more than eighty countries, in order to produce scholars well-versed in Islam. This university has six colleges. These are: the College of Arabic and Arts, the College of Dawa and Usul-Al-Din, the College of Shariah, the College of the Holy Quran, the College of Hadith, and the College of Graduate Studies.

2.1.3. King Fahad University of Petroleum and Minerals

Established in 1963 as the College of Petroleum and Minerals, it became the University of Petroleum and Minerals in 1975. In 1986, its name was changed to the King Fahad University of Petroleum and Minerals. This University is located in Dhahran in the Eastern Province of the Kingdom. It undertakes various engineering and industrial management-related studies and prepares technical and professional manpower for all sectors of the Kingdom's oil and other industries. This university has seven colleges. These are: the College of Applied Engineering, the College of Engineering Sciences, the College of Environmental Design, the College of Graduate Studies, the College of Industrial Management, the College of Sciences, and the College of Computer Sciences.

2.1.4. King Abdulaziz University

The King Abdulaziz University was founded by Saudi businessmen as a private institution in 1967 at Jeddah, in the Western Region of Saudi Arabia. It was taken under the government's control in 1971. This University consists of nine colleges, each specialising in different subjects. These are: the College of Earth Sciences, the College of Engineering, the College of Art and Humanities, the College of Economics and Administration, the College of Education (in Madinah), the College of Marine Science, the College of Meteorology, the College of Medicine, and the College of Science.

2.1.5. Imam Mohammed Bin Saud Islamic University

Founded in 1974 in Riyadh, the capital city, this university is the largest institution concerned with Islamic and Arabic studies in the Kingdom. In addition, it produces qualified teachers, preachers, judges and Muslim callers from students coming from all over the world.

This university has 11 colleges. These are: the College of Shariah, the College of Shariah and Islamic Studies (in Al-Hasa), the College of Arabic Language and the College of Arabic and Social Sciences (in Abha), the College of Arabic and Social Sciences (in Qaseem), the College of Dawa (in Madinah), the College of Dawa, the College of Qadha, the College of Shariah and Usul-Al-Din (in Abha), the College of Shariah and Usul-A1-Din (in Qaseem), and the College of Social Sciences. In addition, it has 60 intermediate and secondary religious institutions, 54 in the Kingdom, and 6 in other countries.

2.1.6. King Faisal University

The. King Faisal University was established in 1975 and it operates in two main cities in the Eastern Province: Dammam and Hofuf. It is a comprehensive higher education institution offering courses in several fields through six colleges: the College of Administrative Science and Planning, the College of Architecture and Planning (in Dammam), the College of Agriculture and Food Science, the College of Education, the College of Medicine and Medicinal Sciences , and the College of Veterinary Medicine.

2.1.7. Umm Al-Qura University

This university, founded in 1981, includes the Faculty of Shariah and Islamic Studies which has existed since 1969, and the Faculty of Education in Makkah, which was founded in 1952. For a period, both were under the Ministry of Education (1971-1972), then became a part of King Abdulaziz University prior to becoming part of the Umm A1-Qura University (Rashid and Shaheen, 1987: 126). It is called Umm Al-Qura because this is the other name for the holy city of Makkah where it is situated. It has nine colleges and institutes. These are: the College of Education, the College of Education (in Taif), the College of the Arabic Language, the Arabic Language Institute, the College of Dawa and Usul-A1-Din, the College of Shariah and Islamic Studies, and the College of Engineering and Islamic Architecture, the College of Applied Sciences, and the College of Medicine.

2.1.8. King Khalid University

This university is the youngest among the eight Saudi University. It was established in 1998 by gathering together branches of two existing universities: King Saud and Imam Universities in Abha city at the south west part of the Kingdom of Saudi Arabia.

2.2. Arabic Language Institutes for non-Arabs in Saudi Arabia

Four of the eight Saudi universities have institutes for teaching Arabic for foreigners. These are King Saud University, Imam Mohammad bin Saud University, Umm Al-Qura University, and Islamic University. Similarities appear in the four institutes in their objectives. All aim to teach Arabic to non-Arabic speakers, train teachers, and conduct research.

2.2.1. The Arabic Language Institute at King Saud University

The Arabic Language Institute at King Saud University was the first established institute to teach Arabic for foreigners in 1974. Programmes of the institute were run under the Department of Arabic Language at Alriyadh (King Saud) University, until the institute was formally opened independently in 1975. (KSU, 1987; 1993).

2.2.1.1. Aims of the Institute

The Institute offers a wide range of programmes and activities which aim to achieve the following goals listed in the Institute's Prospectus (KSU, 1987):

1. "To teach Arabic and the Arab & Islamic culture to non-Arabic candidates preparing to become qualified teachers of Arabic as a foreign language.

2. To provide further training opportunities for teachers already working in the field of teaching Arabic to non-Arabic speakers.

3. To promote linguistic and educational research into the teaching of Arabic as a foreign language and the development and selection of new teaching materials" (p. 2).

2.2.1.2. The Institute's Units

Four units constitute the body of this unit: the Language and Culture Unit, the Teachers' Preparation Unit, the Teacher Training Unit, and the Research Unit.

The Language and Culture Unit

This unit is first in which the student should enrol before being able to take part in other programmes. The aim of this Unit is to raise the Arabic language skills of the learners. Students have to pass the programme in order to be admitted into Diploma courses.

The Teachers' Preparation Unit

The aim of this unit is to prepare learners to teach Arabic to foreigners. The programme consists of twenty-four credit hours, of which fifteen credit hours are allocated for the study of compulsory subjects, and nine hours for optional subjects. An additional six hours in general education complement the preparatory requirements of the programme. Learners, in order to enrol in the programme, should:

1. be in possession of a B.A degree or equivalent with a "good" grade in Arabic or education, specialising in the Arabic language, or in Islamic studies from an Arabic university;

2. be proficient in the Arabic language, as determined through a competence test conducted by the Institute;

3. have knowledge of a foreign language, preferably English (KSU, 1987, p. 3).

The Teacher Training Unit

This unit is concerned with in-service teacher training. The unit provides approximately eleven compulsory subjects and students must study all those subjects in one intensive term covering some twenty-five contact hours extending over sixteen weeks. Admission to this Unit is conditional on meeting the following requirements:

1. The candidate must be in possession of at least the General Secondary School Certificate.

2. He must be a teacher of Arabic in SA or elsewhere at the time of application.

3. He must be proficient in speaking, reading and writing Arabic.

4. He must not have obtained a diploma from the same Institute.

5. He must not be over fifty years of age, and should come at the recommendation of an official body or an Islamic organisation in his country (KSU, 1987, p. 4).

The Research Unit

The Unit's objectives are as follows:

1. "Planning linguistic and educational studies and research relevant to Arabic language teaching for non-native speakers as well as monitoring projects and research investigations.

2. Monitoring curriculum, educational material and teaching aid projects for Arabic language teaching to non-native speakers.

3. Publishing manuals, school books and other materials consistent with the Institute's objectives and mission" (KSU, 1987, p. 7).

2.2.2. The Arabic Language Institute for non-Arabic Speakers at Umm Al-Qura University

The Arabic Language Institute for non-Arabic Speakers at Umm Al-Qura University was established in 1975 as a centre for teaching Arabic as a second language under the faculty of Al-Shari'ah and Islamic Studies at Umm Al-Qura University (UQU, 1986). The institute became independent in 1979 and a specialist educational department was subsequently established within it to prepare teachers.

Aims of the Institute

This institute's aims are as follows:

1- teaching Arabic language and literature to non-Arabic speaking Muslims, and providing them with adequate knowledge of Islamic studies;

2- graduating and training specialised teachers who can teach Arabic for foreigners;

3- conducting research and empirical experiments in order to develop methods and styles of teaching Arabic for foreigners, and distributing findings of these research and field experiments;

4- encouraging researchers to conduct research in the field of teaching Arabic as a second language;

5- co-operating with Islamic establishments in the field of teaching Arabic as second language;

6- exchanging experiences with scientific establishments in this field;

7- conducting training circles for teachers of Arabic as second language.

The Institute consists of two academic departments: the Department of Arabic Teaching and the Educational and Lingual Specialism.

The Department of Arabic Teaching

Every student joining the university from a non-Arabic country has to take some courses in this department. The study period in this Department covers three years and includes three levels: elementary, intermediate, and advanced. The institute has, also, another department for female students; it is the only institute of its kind to admit women.

The Educational and Lingual Specialism

This Department, which is concerned with the preparation of teachers, offers the following two programmes which, altogether, are equivalent to a Bachelor Degree:

1- The General Diploma programme, which prepares teachers of Arabic to non-Arabic speakers. The period of study on this programme is four terms (two academic years) and the total number of prescribed hours for this General Diploma is a hundred hours, spread equally throughout two academic years.

2- The Specialist Diploma programme, which is an advanced linguistic and educational qualification for teaching Arabic for foreigners. The period of study on this programme is four semesters and the total prescribed hours for this Specialist Diploma is one hundred hours, spread over two years. Students enrol in this programme with a view to up-grading their performance (UQU, 1986, p. 15).

2.2.3. The Institute for Teaching Arabic at Imam Mohammed bin Saud Islamic University

This Institute was established in 1977. Initially, it was a centre operating under the control of the Faculty of Arabic Language in Riyadh. Later, it developed in size and improved in terms of its courses because of the additional resources which became available to it as the country became more prosperous (IMSIU, 11983). At that time, there was a desperate need for the provision of Arabic language courses for visiting students from different Islamic countries who could not speak Arabic in order for them to pursue their studies in the various faculties of the University. Therefore, the centre was converted into a teaching unit and was renamed in 1981 as the Institute for Teaching Arabic (IMSIU, 1992).

2.2.3.1. The Aims of the Institute

The Institute concerns itself with teaching Arabic for foreigners. According to its statement, its aims are as follows:

1- "Preparing students linguistically in order to enable them:
   a) to acquire the basic skills in Arabic for daily communication, and
   b) to join courses at the faculties of Islamic Shari-ᶜah (Law) or the faculties of Arabic.

2- To prepare teachers in Arabic and the Islamic religion.

3- To hold training programmes for Islamic education teachers.

4- To qualify students in Islamic studies and the Arabic language.

5- To undertake linguistic and educational research for the purpose of:
   a) planning linguistic and educational research, including Arabic teaching studies;
   b) researching the linguistic, educational and teaching problems characteristic of teaching Arabic to foreign learners and designing textbooks and teaching aids" (IMSIU, 1983, pp. 9-10).

2.2.3.2. The Institute's Departments

At present, the Institute consists of the following departments:

The Department for Linguistic Preparation

Study in this Department is divided into the following two programmes: the Basic Programme and the Linguistic Programme.

The Basic Programme

This programme aims at preparing students linguistically to enable them to study at one of the University's faculties. The study period is for two years and covers four levels, each lasting one term. The programme is subdivided into the following four units: the religious science unit, the basic language unit, the grammar unit, and the literature unit. Graduates from these units are awarded the Diploma in Linguistic Preparation and are able to enrol in university faculties.

The Linguistic Programme

This programme aims at providing non-Arab workers in the country's public and private sectors with the Arabic skills required for them to participate fully as citizens in their professional and social life. The study period on this free programme is three years.

The Department of Arabic and Islamic Science

This Department aims at educating and preparing students in Arabic at a higher level and raising their knowledge of the Islamic culture and the teaching methods of Arabic to non-Arabic speakers. The study period is for one year.

Students successfully finishing this year are awarded a Diploma in Arabic and Islamic Science.

The Department for Teaching Arabic as Foreign Language Teacher Preparation

This Department offers the following three programmes:

a) The Master's Degree programme: the study period for this degree is two years with an extra six months for research.

b) The General Diploma programme: the study period is one year divided into two terms.

c) In-service training courses: in response to popular demand, the Department organises occasional intensive training courses in co-operation with Islamic universities all over the world. The aim of these courses is to raise the standard of non-Arab teachers of Arabic and religious subjects in the

non-Arabic speaking countries and to provide these teachers with up-to-date information in the field. The period of this course is usually for one term only.

The Research Centre

This Centre conducts linguistic and educational research related to the field of Teaching Arabic as Foreign Language. It is involved in the planning and supervision of research projects and acts as an advisory body for Arabic and Islamic schools and publishes textbooks as well as teaching aids. The Centre also organises debates and participates in the design and development of improved teaching programmes and methods. It also issues relevant booklets and pamphlets.

2.3. Teaching and Learning at the Universities

Studies which have investigated what goes on in the university classroom are very rare in the Kingdom of Saudi Arabia. Such studies as are available have shown that the lecture method is the only method of teaching students in many universities in the Kingdom of Saudi Arabia and Gulf countries, and suggested that other teaching approaches need to be introduced. Al-Kadimi (1994) investigated the most important learning problems that face female students at Umm Al-Qura University from the perspective of students. One of the most important findings in his study was students' complaints of teachers relying only on the lecture method, which gives students no chance for discussion or interaction. Al-Naji (1998) concluded that the most important characteristic that teachers should have in order to enhance students' learning and achievement is the ability to use varied teaching methods.

The situation in the Arabic Language institutes is no different from that in other institutes or colleges in Saudi universities. Teachers usually stand or sit in front of their students, who sit in rows. Teachers are kept busy most of the time talking about the topic and using chalk to write notes on the board, which students slavishly copy. Students are almost all the time kept passive, with no chance to interact with either their teacher or their peers. The current study will shed light on co-operative learning as a learning style that would complement the lecturing method in order to cater for different learning preferences, and so improve students' learning.

There is also a lack of evaluation and development in the curricula of these institutes. There has been no change in the curriculum since the early eighties. Some curricula materials are in the form of handouts, typed on old fashioned typewriters. These handouts contain many misprints, yet have never been

corrected or replaced. Also, the content is very condensed, which makes it difficult for teachers to keep up with the academic timetable.

The current predominant teaching approach which makes students passive learners cannot be blamed on the tradition of teaching in Islamic history. Scholars used to use a variety of teaching styles in their lessons and students actively participated in the process of learning. However, around the tenth hijri century (five centuries ago), there was a "freezing" of educational thought (Abdullah, 1985), and learning became dominated by a focus and concentration on memorising and imitating, which led to lack of creativity and invention. Al Mubarak (1977) described this situation as follows:

> *"The teaching system changed to a rigid, imitative style, with no critical thinking and discussion, partial thinking [instead of comprehensive] removed from real life topics and problems, and from cultural developments" (p. 18).*

This led, in almost all teaching situations, to a view that transmitting subject content knowledge is the practical aim of education (Qutup, 1995). Under this concept of teaching, the role of the teacher has tended to be concentrated on the verbal transmission of facts and nothing more, in general. Abdullah (1985) expressed the situation as follows:

> *"According to this concept of teaching, the teacher's role is restricted to explaining the content verbally, which restricts the learner's role to reciting what is needed from him/her. Thus, the learner is mostly passive"* (p. 102).

On the other hand, official documents at both university and institute levels contain nothing that would prevent the implementation of other approaches to learning. Ironically, both advocate the use of different teaching and learning styles to improve students' abilities and prepare them to be active learners and, hence, active members of society. For example, the third objective of the Institute of Arabic Language for non-Arabic Speakers at Umm Al-Qura University is:

> *"Conducting research and empirical experiments in order to develop methods and styles of teaching."*

However, this objective has not been attained (if any attempts have taken place; the researcher has seen no reports, publications, or evidence of experiments). In the researcher's experience, teaching styles remain unchanged. However, although teachers have to cover certain curricular content, there are no written institutional instructions as to the manner in which they do so. It is up to teachers to take the

decision. The easiest option is to continue with the same methods, with which they were familiar as students, and which they perpetuate as teachers.

2.4. Co-operation and Learner Responsibility in the Islamic Context

When investigating introducing any innovation, it is necessary to pay attention to the cultural underpinnings of the targeted context of implementation. An introduction of an innovation that contradicts with the value system would result in undesirable outcomes and failure of implementation. For this reason, the researcher will consider the concept of co-operation in the Islamic context. In addition, as an implication of implementing co-operative learning, the locus of responsibility for learning will be explored.

Co-operation is considered to be one of the essential elements that make life possible in the Islamic culture. Ibn Alqayyim (1993) illustrates this by considering human beings to be social by nature. He believed that no one can live alone without communication or co-operation. Encouraging people to co-operate is seen in many chapters in the holy Quran and the Prophet's sayings.

Almighty Allah says:

> *"Help Ye one another in righteousness and piety, but help ye not one another in sin and rancor."*

The person who reads this verse, can understand Allah's order to all people to co-operate with each other in the field of righteousness such as the scientific fields. There are many verses that call for co-operation.

There are so many works in the daily lives of Muslims that should be done in the shape of teamwork, such as the five prayers which should be done in a group. The co-operation of the people is a very clear distinguished point in Islam.

> *"Who looks on Islamic instructions can find that human beings are the subject of believing in Allah and they should build their faith on thoughts not a blind imitation only. Man should look at the things around him in his life. He should think of his life"* Allah says.

(Many were the Ways of Life that have passed away before you: travel through the earth, and see what was the end of those who rejected Truth) (Al-Emran -137).

Allah says also (Alnkaboot -20):

> *"Travel through the earth and see how Allah did originate creation; so will Allah produce a later creation: for Allah has power over all things."*

Also, we can find that those who refuse the truth because it is a matter against their traditions and parents' instructions, are criticised by the Qura'n (Al-Zukhrof -22):

Nay! they say: "We found our fathers following a certain religion, and we do guide ourselves by their footsteps."

As a result of that, it is a mistake to consider that the educated Muslim man is an unconscious imitator.

We can find that the role of the learner (to ask, answer, interact in the learning operation) is repeated in the Qura'n and the prophet's tradition (Hadith).

The restriction of human thoughts and freedom as a part of the traditional methods of teaching resulted in the Islamic countries for many years lagging behind other countries in scholastic development. The traditional methods, according to Al-Roshodi (2000) are only useful in the following situations:

1. Teaching beginners, one can discuss only limited points.
2. The teacher can use this method if he has not prepared the lesson very carefully. So he can read and make the students write down what is in the book.
3. This method is good to make the students collect more information about the subject.
4. This method works to improve the students' pronunciation following the teacher's method.
5. This method has no requirements but to be a good reader.
6. This method is available for teaching the ill-educated person.

Al-Roshodi comes to a conclusion by saying "This method is available for a small number of students to gain more knowledge about the subject".

We can find that a good teacher in the Islamic heritage is one who gives his students responsibility for learning. Al-Qadi (1983) narrates a scholar's speech about a Muslim teacher, saying:

> *"He is one of the good teachers. He teaches his students well, organizing the teaching and learning, holding seminars, discussing with his students, giving prizes for the most intelligent students, consulting them to choose the best book for studies. He obeys the views of the most students. In the case of an equal number of objections and agreements, he will take the decision. The students enjoy the study times and never become bored from the long time"* (p. 364).

It appears from the Quranic verses that co-operation and personal responsibility for acquiring knowledge are important values in Islam. Moreover, some Muslim scholars have demonstrated some teaching and learning styles that differ from the traditional didactic method that made students passive in the learning process. Thus, co-operative learning approaches appear to be compatible with both the theoretical basis of the Islamic thought and the experience of Muslim scholars with their students. The current study will investigate what teachers think about learners' responsibility for their own learning and whether or not they allow their students to take such responsibility in practice.

2.5. Summary

University education in Saudi Arabia began in 1957; there are now eight universities, two of which specialise in Arabic and Islamic Studies. Four universities have institutes for teaching Arabic to foreigners, whether to equip them for future work and study, or to qualify them as teachers of Arabic as a foreign language. These institutes also conduct research related to curriculum and teaching methods. Saudi universities, including the Arabic Language Institutes, face criticism for their over-reliance on lecture-based teaching methods, where the students are largely passive. Moreover, despite the existence of research departments, research and development activities seem to have stagnated. This situation is contrary to Islamic ideals of co-operation and personal responsibility; such ideals suggest that a co-operative approach to learning may be acceptable in an Islamic context. The next chapter reviews the literature on co-operative learning.

CHAPTER THREE

LITERATURE REVIEW

LITERATURE REVIEW

Introduction

This chapter establishes the conceptual background to this study, by presenting theoretical writings and previous empirical work related to its main themes. The greater part of this chapter is concerned with co-operative learning. The differences between the co-operative approach and other approaches of learning (the competitive and the individualistic) are clarified. The theoretical underpinnings of co-operative learning are outlined, the key elements are highlighted, and various models are presented by which the concept may be operationalised in the classroom. Attention is drawn to the nature of the teacher's role in co-operative learning, which, it is argued, is distinct from traditional models.

Since this study focuses on the use computers in co-operative learning, attention in this chapter is also directed to literature on computers in education.

3.1. Competitive, Individualistic, and Co-operative Classrooms

There are three types of learning structures: competitive, individualistic, and co-operative. Competitive learning is the learning situation in which student evaluation is under the norm-referenced approach. This invariably means that students have to compete individually for grades.

Individualistic learning is the learning situation in which students work individually and their performance is evaluated on a criterion-referenced basis (Johson et al., 1998). Johnson and Johnson (1989) defined the inherent values with which students engage in each structure.

In competitive situations, the values are: *commitment to getting more than others*, where one will win and others will lose; *success depends on beating, defending, and getting more than other people,* where the value of winning outweighs the value of excellence; *opposing, obstructing, and sabotaging the success of others is a natural way of life,* where winning comes in two ways: doing better and obstructing others; and the pleasure of winning is associated with others' disappointment with losing; *other people are a threat to ones success* because they will attempt the same obstructions and sabotage; *other people's worth is contingent on their wins,* where losers have no value; *self-worth is conditional and contingent on ones wins* and one would lose belief in her/himself in losing situations. Competitors are extrinsically motivated, striving to win rather than striving to learn, winning is considered the only goal, and there is a tendency to fear or be contemptuous of people who are different, as they are considered to be potential obstacles to success.

The values in individualistic learning are: *commitment to ones own self-interest,* where others' success is considered irrelevant; *success depends on ones own efforts*; *other people's success or failure is irrelevant and of no consequence; the pleasure of succeeding is personal and isolated*; *other people are irrelevant to ones success* since their results have no impact on oneself; *other people's worth is non-existent because they are seen as irrelevant and of no value to ones effort to succeed.* Self-worth is based on a unidimensional view of oneself. Motivation is extrinsic, based on achieving criteria and receiving rewards rather than striving to learn; and people who are perceived to be different are disliked while people who are perceived to be similar are liked.

On the other hand, the values in co-operative learning situations are: *commitment to the common good,* as the individual's work will contribute to all group members; *success*

depends on the joint efforts of everyone to achieve mutual goals as succeeding depends on everyone doing his portion of the task; *facilitating, promoting, and encouraging the success of others is a natural way of life,* since the success of the group depends on everyone doing his part; *the pleasure of succeeding is associated with others' happiness in their success,* automatically, since ones own success is linked with that of others; *other people are potential contributors to ones success*; *other people's worth is unconditional* as everyone has something to contribute in the joint effort, and *self-worth is unconditional* as self-worth comes from any contribution one has in order to promote the joint effort towards the goal. Co-operators value intrinsic motivation based on striving to learn, grow, develop, and succeed. People who are different from oneself are to be valued, since they will add diversity in group resources.

The learning structure currently applied in the Arabic Language Institutes is an individualistic one. The researcher hopes this study will draw attention to the importance and benefits of co-operative learning and ultimately the possibility of implementing it in this context. This is not to say that the co-operative learning approach should be adopted in all classes, but it may be beneficial if such an approach was used in a proportion of them.

3.2. Co-operative or Collaborative Learning?

Some researchers use the terms "co-operative" and "collaborative" interchangeably. Others argue that collaborative learning does not mean co-operative learning and there are several differences in principle between co-operation and collaboration. In this section, the different views regarding this topic will be discussed.

The interchangeable use of the two terms "co-operative" and collaborative" can be seen in many published articles in academic journals.

Myers (1991) indicated that the definition of "collaboration", based on its Latin root, focuses on the process of working together, while "co-operation" stresses the product of group work. He, then, goes on to point out differences between co-operative and collaborative learning. Co-operative learning has the tendency to be more teacher-centred. Forming groups, structuring positive interdependence, and teaching social skills are all examples of jobs teachers do. On the other hand, students in collaborative learning have more flexibility in forming their groups, and talking to each other; interpersonal skills are taught through context or discovery.

McConnell (1994) drew an illustration of several dimensions included in co-operative leaning strategy that help in clarifying the terms: co-operative and collaborative. These aspects are structures imposed by teachers, amount and type of control teachers take, motivation to learn, learning content, and assessment. The following figure presents his idea:

Figure 3.1 **Dimensions of Co-operative learning**

Structure

Co-operative **Collaborative**

Highly structured ----------*no structure*

Teacher control

High ----------*low*

Moderation of learning

External----------*internal*

Learner motivation

External----------*internal*

Learning content

Curriculum-based----------*learner-based*

Assessment

Unilateral by teacher----------*unilateral by learner*

McConnell (1994) argued that there are two views regarding these dimensions. The first view is curriculum-based, where co-operative tasks are structured and policed by teachers. Learners, in this approach, are motivated to learn by rewards and undergo criterion-referenced tests. The teacher is central in almost all dimensions, as he/she defines the learning goals, structures lessons and activities, rewards, and tests. In contrast, is the view where learners are internally motivated to learn discuss and exchange their ideas and views through an "issue based" approach. Teachers do not tightly police group activities, which are mostly decided by learners. Learners are, most of the time, the parties who define the learning goal and are involved in assessment.

The previous six dimensions could be seen from another perspective that includes four basic indicators: "Is the activity learner-centred or teacher-centred?, Is the activity structured or not?, Does the activity impose external motivation? Or are motivations intrinsic? And is the aim of activity knowledge transmission or knowledge transformation?"

Matthews et al. (1995) believed that "co-operative learning" and "collaborative learning" are two different disciplines, though they acknowledge that both have much in common. They report various examples of similarities between them. Learning, in both "co-operative" and "collaborative" learning, is an active procedure and not passively received. The teacher's role changes from that of giver or "sage on the stage" to be a facilitator, coach, or midwife. Teacher and learners share teaching and learning experiences. The teacher's role involves balancing lecture and group activities. Co-operative and collaborative learning are beneficial for learners in enhancing higher-order thinking skills, individual abilities in utilising knowledge, intellectual development through the process of accepting responsibility for learning either individually or as a group member, and self-reflection through the process of

articulation of ones thoughts. Also, through both strategies, social skills are improved and learners will be more appreciative of diversity.

To sum up, the four indicators represent lines of continuum. Co-operative learning appears to be at the far left of the continuum, while collaborative learning is located at the far right end. In real life, there is no such thing as a 100% structured group. Simply, if a group member was absent for one class, it would disturb the group dynamics and upset its structure. On the other hand, there are certain topics in which learners cannot, and maybe should not, proceed without the teacher's attention. This means, in such a case, that learner control is not total. In fact, in the researcher's view, what co-operative and collaboratively learning have in common is greater than what divides them. Moreover, they are often used in combination in the same lesson. Therefore, the researcher will use the terms interchangeably throughout the thesis, unless there is a particular reason to use one term rather than the other, in which case, it will be stated.

Indeed, co-operative learning itself is not a homogenous, inflexible concept, but may encompass various approaches with different levels of structure. Brody and Davidson (1998) identify three approaches or levels of co-operative learning, which they call the transmission, transaction, and transformation approaches (Brody and Davidson, 1998). These three approaches are the reflections of several aspects of co-operative learning such as lesson structures and teachers and students' roles.

The transmission phase of co-operative learning involves the structuring of co-operative lessons by teachers in order to transmit knowledge to students. This view could be seen clearly in the argument of Sharan et al, (1992) that knowledge is:

> *"[A]n objective body of information whose existence is unrelated to human subjectivity, and schools must transmit this knowledge intact, i.e., free of error, to the learner"* (p. 35).

This transmission approach to co-operative learning is, also, illustrated by Kagan (1992), although as he used the term "deliver" instead of "transmit" in describing his Structural Approach. He said: "*Content is delivered via structures*" (p. 5:3).

On the other end of the continuum from transmission, there is the transformational approach to co-operative learning. In this approach there are no pre-structured lessons and many issues, such as what is to be learnt and how to achieve it, will be dealt with through learners' discussions. It is the collective experience of all learners in the learning community, that results in new knowledge (Britton, 1990). Moll and Whitmore (1993) investigated the interactive and the contextual features of learners' development in communities of learners. They found fluidity of roles and reliance on various zones of skills from both the teacher and the students in a joint construction of knowledge. The roles of teachers and their students were flexible in creating an active, mutual learning. They added, with regard to the students' role, that students

> *"have considerable control of virtually all aspects of their own learning experiences. They select groups, reading materials, writing topics, theme topics, and language to use"* (p. 38).

According to Brody and Davidson (1998) the transactional approach to co-operative learning lies somewhere in between the transmission and the transformational approaches.

Brody and Davidson (1998) summarised the differences between the three approaches with regard to conception of co-operative learning, locus of control and sense of authority, the teachers' role, conception of decision making in teaching, and the nature of knowledge and knowing. Table 3.1 from Brody and Davidson, illustrates these.

In the researcher's view, real life teaching situations may be depicted by combining the insights from McConnell (1994) and Brody and Davidson (1998), with co-operative and

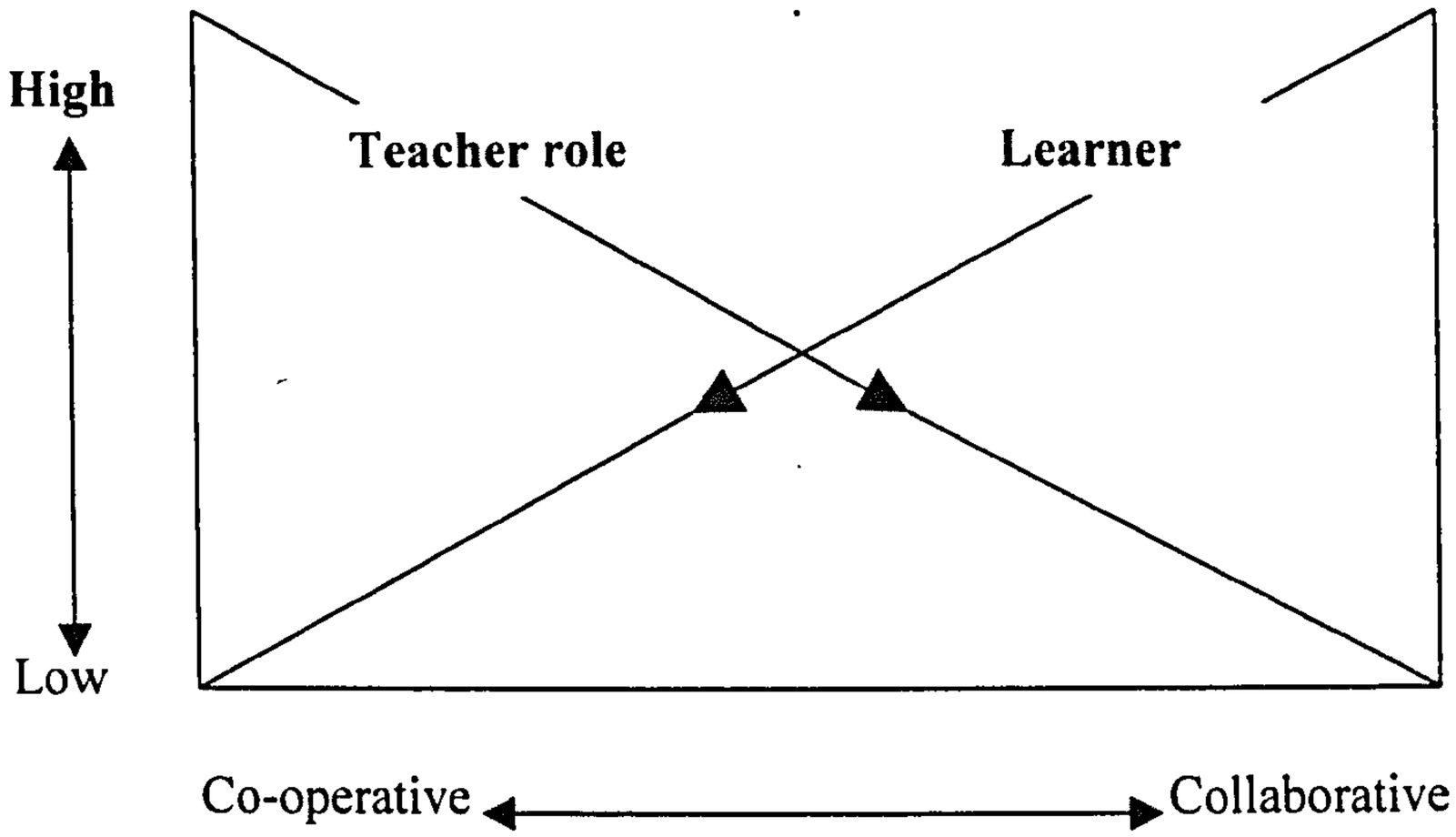
collaborative learning as two overlapping areas, as shown in Figure 3.2. Co-operative learning is represented by the vertically shaded triangle; collaborative learning by the horizontal shading. At the left-hand side of the co-operative-collaborative continuum, corresponding broadly to Brody and Davidson's transmission phase, the teacher role is at its highest, and the learner role at its lowest. "High" teacher role equates to a high level of structure, teacher control and authority, teacher assessment, use of external incentives as motivators, and teacher "ownership" of knowledge. At the other end of the continuum is "pure" collaborative learning, corresponding to Brody and Davidson's transformation phase. As the teaching and learning style moves along the continuum, the relative importance of teacher and learner roles, degree of structure, and so on, change. However, there is a large area where the two triangles overlap, reflecting the fact that the teaching situation may contain both co-operative and collaborative elements in varying proportion. This is why, in this work, the researcher has not attempted to preserve a rigid distinction between the two.

Table 3.1

Transmission	Transaction	Transformation
Conception of Co-operative Learning		
Co-operative learning is a technique to be mastered primarily to extend ones tools for managing groupwork. It improves achievement test scores and is used most often for mastery learning, review.	Co-operative learning fosters problem-solving, higher levels of thinking and pro-social behaviours.	Co-operative learning is a philosophy whereby a set of values are explicit regarding relationships and learning, i.e., creating a community of learners who can engage in critical dialogue and inquiry.
Locus of Control and Sense of Authority		
Teacher-Centred Authority for knowledge rests primarily with the teacher who is responsible for all aspects of learning and the learning conditions.	Learner-Centred Authority for knowledge is shared with students. The teacher is authoritative, not authoritarian. The goal is to assist the learning to become more intrinsically motivating.	Constructed Communities Authority is derived from the community. Teacher is primarily concerned with the effect of community-creating new knowledge. Students are capable of defining the conditions of learning.
The Teacher's Role		
Teacher is performer, director, manager.	Teacher is facilitator, encourager, orchestrator.	Teacher is co-learner and an integral part of the community.
Conceptions of Decision Making in Teaching		
There are prescribed processes for most situations. Effective practice can be tied to discrete teacher behaviours.	Teaching is a complex, rational craft and decisions are best made through reflection and consultation, consciously and tentatively.	Teaching is a complex, rational craft and decisions are best made through reflection and consultation, consciously and tentatively. Teacher considers a full range of pertinent, contextual and pedagogical factors, but dialogue focuses on issues of power and social justice.
The Nature of Knowledge and Knowing		
Knowledge is an objective body of information transmitted from teacher/text to students. "Knowing" emphasises logical, linear paradigms. Covering curriculum dominates decision-making.	Knowledge is dynamic and changing. Knowing is in relation to the knower, a process related to various modes of inquiry. Depth is valued over breadth in curriculum.	Knowledge is dynamic, changing and constructed. Knowing is multi-dimensional and contextual or situational. Dialogue is central to creating a community. Students and teachers, are co-learners. The goal of knowledge is transforming society through community action.

(This table is adopted from Brody and Davidson, 1998, p.29-30)

Figure 3.2. Relationship between Co-operative and Collaborative Learning



3.3. Origins of Co-operative Learning

Co-operative learning mainly comes from three different learning theories. These theories are the Socio-Constructivist, the Socio-Cultural, and the Shared Cognition theory (Dillenbourg et al. 1994).

Socio-Constructivist Theory

The Socio-Constructivist theory is considered to be an extension of Piaget's theory which is concerned with individuals' cognitive development. Piaget's theory inspired groups of psychologists who proceeded to investigate how individual cognitive development is affected by social interactions (Doise and Mugny, 1984). The Socio-Constructivists claim that students master new approaches through interaction with peers (Doise, 1990). The emphasis in this learning theory is on the social interactions. A learner has to attain an accepted level of development to be candidate in a particular interaction. This involvement in interactions will produce a new individual state, which is higher than the starting one, and this rise would allow learners to launch more

complex interactions in continual development (Dillenbourg et al. 1994). The central idea of the socio-constructivists is that

> *"it is above all through interacting with others, considering his/her approach to reality with those of others, that the individual masters a new approach."* (Doise, 1990, p.46)

Socio-Culture Theory

In contrast to the socio-constructivist theory, which focuses on individual cognitive development in the context of social interactions, the socio-culture theory attempts to focus on the causal relationships between social interactions and individual cognitive development. This theory's major influence comes from Vygotsky (1962, 1978). Wertsch (1991) emphasized three major themes describing the nature of the relationship between the individual and social processes in knowledge construction: individual development has its origins in social sources, human actions are mediated by tools and signs, and thirdly, these two themes are best examined through genetic or developmental analysis.

The major aspect of Vigotsky's socio-cultural theory is the Zone of Proximal Development. The idea of the "zone of proximal development" is that the potential for cognitive development occurs through this "zone" (Forman and McPhail, 1993; Wertsch, 1994). Seifert and Hoffnung (2000) stated that "The zone of proximal development refers to the range of tasks that a child cannot yet accomplish without active assistance from parents and others with greater knowledge" (p. 53).

Shared Cognitive Theory

The shared cognitive theory is concerned with situated learning; it concentrates on the environment in which learning takes place (Brown, et al. 1989). This focus on the

learning environment constitutes the major difference between the socio-cognitive and socio-cultural theories, on the one hand and the shared cognitive theory on the other. Cognitive development, according to this theory, is not an environment-independent phenomenon. According to Suchman (1987), the learning environment, which includes both physical and social contexts, plays an integral part in cognitive activities.

From this review of the origins of co-operative learning, it can be seen that it is relevant to every teacher, whatever his or her theoretical orientation, since the model of co-operative learning advocated in this study is an inclusive one.

3.4. Basic Elements of Co-operative Learning

There are five basic elements of co-operative learning suggested by Johnson et al. (1992), which have received widespread acceptance by researchers in the field of co-operative learning (Hooper, 1992; Felder and Brent, 1999; Snowman and Biehler, 2000). These five basic elements are: positive interdependence, individual accountability, promotive (face-to-face) interactions, social skills, and group processing.

Positive Interdependence

Positive interdependence exists only when students realise that their success is strongly linked to other group members' success. Group members must perceive that they "sink or swim together" (Johnson et al. 1998). Designers of co-operative learning have to be concerned about the fact that unless students have some reason to do the task co-operatively, they might attempt to do it individually. This problem addresses the need for interdependence among group members in small group situations. In such a case, interdependence implies that a learning group will be established, members of which are

dependent on each other for attaining their goal and use the resources of each member (Cohen, 1994).

The concept of goal interdependence, raised by Deutsch (1962), means that a learner in a co-operative group will achieve his/her goal if and only if other group members succeed in doing so. Members of co-operative learning groups will actively participate in the task if they hold the feeling that their contribution is vital in promoting and achieving the group goal, which will increase their efforts (Harkins and Petty, 1982). In contrast, if students feel their efforts are not valued by their group mates, they will be inactive or reduce their contribution (Kerr, 1983; Kerr and Bruun, 1983). This problem is likely in large groups as the individual's contribution

> *"goes unnoticed, resulting in lower motivation and unwillingness to work for the good of the group",*

a problem referred to as "social loafing", (Hooper, 1992). Another effect of lack of genuine positive interdependence is what Kerr and Bruun (1983) called the "free-rider", when they conducted an experiment investigating the importance of individual effort. Olson (1965) suggested that making the individual effort more noticeable would be a good way to eliminate this problem. Another problem associated with negative interdependence may appear from active group members. These members who notice that they are working for the lazy free-riders will perceive that they are the "group suckers" and reduce their activities in helping the group to accomplish their goal (Kerr, 1983).

The researcher, in the current study, investigated teachers' opinions about positive interdependence as an important element of co-operative learning. In addition to this, students who are working co-operatively in the co-operative learning sessions

conducted in this study were observed and an effort made to promote positive interdependence among students.

Individual Accountability

Individual accountability is a crucial factor in promoting effective co-operation. Students in a co-operative learning group have to have a sense of personal responsibility in accomplishing the group goals, which includes completing ones own part of the task and facilitating other members' work. The lack of individual accountability will, certainly reduce the sense of responsibility (Johnson et al. 1989). It is vital to ensure that all students contribute actively in the co-operative learning group and at the same time that every member is able individually to practise the procedures and knowledge learned in the group.

Teachers, in the current study, were asked their opinions about individual accountability and its role in implementation of co-operative learning, as well as their experience in this regard, if they had tried co-operative learning in the past.

Promotive Interaction

Promotive (face-to-face) interaction refers to individual learners' efforts in encouraging and facilitating other group members to achieve the desired goal. Johnson et al. (1989) consider that promotive interaction is characterised by: students providing their group mates with efficient help, exchanging resources, providing needed feedback, challenging each others' reasoning to gain quality decision making and deeper insight into topics under investigation, encouraging, exerting and influencing efforts to achieve mutual goals, acting in a trusting and trustworthy way, having motivation to seek mutual benefits, and feeling less anxiety and stress. Stating "face-to-face" promotive interaction implies that this element is not applicable to computer mediated

communication, or co-operative learning through the Internet. However, learners can perform, in such a situation, promotive interactions other than visual ones, also they could have face-to-face promotive interactions through video conferencing.

Social Skills

Grouping students who do not have the needed social skills apparently will not lead to co-operative learning. Interpersonal and small group skills are an integral aspect of the co-operative learning classroom. These social or "collaborative skills" (Hooper, 1992) play a major role in co-ordinating the joint efforts of the co-operative learning group. According to Johnson and Johnson (1997) students have to know and trust each other, communicate accurately, accept and support each other, and be able to resolve their conflicts constructively.

It appears that a pre-requisite for implementing co-operative learning is that students have the necessary social skills. Thus the researcher, in the current study, trained students on social skills they would need in the co-operative learning sessions in which they participated as part of this research. Moreover, the researcher observed students' behaviours with regard to the social skills in these sessions. Teachers, also, were asked to give their opinions about training students on co-operation as an important factor in the successful implementation of co-operative learning.

Group Processing

Group processing refers to working together in a co-operative group, effectively. Students in co-operative learning groups have to reflect on their joint activities in order to identify the weaknesses and strengths of their work (Johnson et al. 1989).

These five elements seem to be accepted as the basic elements of co-operative learning in most published research and studies.

Cuseo (1992) added that groups have to be intentionally assigned in order to give them the label of co-operative learning. He claims nine different criteria by which members may be selected, using one criterion alone, or a combination of some of them to maximise heterogeneity. However, heterogeneity of groups is not a topic of agreement between researchers in the field of co-operative learning. What would be the situation if there is a classroom that consists of students having similar characteristics, as could happen in some special classes? Should the teacher abandon co-operative learning? Another question would be: If the group, which was assigned according to students' judgement, performed their activity according to the Johnsons' (1992) five basic elements, is it capable of being called a co-operative learning group or should it be classified as a "buzz group"?

Since the literature suggests that the five elements discussed above are the fundamentals of co-operative learning, teachers were asked about them in the present study, and efforts were made to implement them in the experimental setting, as will be seen in Chapter Four.

3.5. The Concept of Group and Grouping

Interpersonal dynamics are the crucial element in the function of any group. Such "processes are both the fuel for much learning and potentially the source of a great deal of disruption," (Ehrman and Dornyei, 1998, p. 5).

Everywhere one looks, one finds groups of people. Anyone can find a number of people spending time together. Do these people constitute a group? How could they be

identified as such? For example, students in the library's reading room are not a group. This means that certain features have to be present in order to call a collection of individuals a "group". "A real group is much more than just an aggregation of individuals; it is a powerful social unit that in many ways is more the sum of its parts." (Ehrman and Dornyei, 1998, p.71).

Interdependence among people is one of the basics of any group. Members should have a sort of positive interdependence that allows them to work or discuss a shared topic in order to be a real group (Forsyth, 1990; Johnson and Johnson, 1995). Another important aspect of groups is focused interaction. Goffman (1985) regarded focused interaction as a key characteristic of groups, as it involves both interaction and common purpose. He believed that this type of interaction could only take place "when people effectively agree to sustain for a time a single focus, as in a conversation, a board game, or a joint task sustained by a close face-to-face circle of contributors" (p. 7).

Alderfer (1985) defined the group in a way that included both disciplines and being interdisciplinary, thus:

"A human group is a collection of individuals

(1) who have significantly interdependent relations with each other,

(2) who perceive themselves as a group, reliably distinguishing members from non members,

(3) whose group identity is recognised by non members,

(4) who, as group members acting alone or in concert, have significantly interdependent relations with other groups, and

(5) whose roles in the group are therefore a function of expectations from themselves, from other group members, and from non-group members." (Alderfer, 1985, as quoted in McCollom and Gillette, 1990).

This definition takes account of people's relations in working together within groups. Thus it could be used in the field of education and co-operative learning (McConnell, 1994).

Ehrman and Dornyei (1998) summarised seven points that define a group:

"1. There is some interaction (physical, verbal, emotional, etc.) among group members.

2. Group members are aware of the group's existence, that is, perceive themselves as a distinct unit and maintain boundaries relative to out-groups.

3. Group members share some purpose or goal for being together.

4. Group members demonstrate a level of commitment to the group and identification with it.

5. The group endures for a reasonable period of time (i.e. not only for minutes).

6. The group has developed certain organizational system characteristics and at least a rudimentary internal structure, as a result of which the behaviour of members can be ascribed to patterns of relationship within the group and not to the individual characteristics of the members (i.e., new members would come to adopt the same behaviors even though they may not have them when they enter). These structural elements include:

- The regulation of entry and departure into/from the group.

- Rules/norms/standards of behaviour for members to keep in relationship with each other,
- Relatively stable interpersonal relationship patterns and an established status hierarchy, and
- Division of group roles.

7. Finally, as a direct consequence of the above point, the group is held accountable for its members' actions" (p. 72).

Grouping variables

There are several variables that are considered in groups. These variables such as ability, age, gender and so on make a difference in the real situation (Ehrman and Dornyei, 1998). Finding out which variables that decide group success is not an easy task. Some leaders of group work believed it is very hard to indicate what factors make groups function smoothly. Yalom (1995), who spent much of his life on group therapy stated:

> *"I have had the opportunity to study closely the conception, birth, and development of over 150 therapy groups. . . and have been struck repeatedly by the fact that some groups seem to jell immediately and some more slowly, whereas other groups founder painfully, spinning off members, and emerge as working groups only after several cycles of attrition and addition of members. It has been my impression that whether a group jells is only in part related to the competence or efforts of the therapist or to the number of good patients in the group. To a degree, the critical variable is some, as yet unclear, blending of the member"* (p.253).

Some researchers find it not clear which factor is the determinant of successful group processing. As Hadfield (1992) put it:

"[G]roup dynamic is ultimately a matter of chemistry." (p. 13)

Group size

Group size is one of the major elements that affect personal dynamics in the co-operative learning classroom. There are two major thoughts regarding the group size that need to be considered beforehand. One of these considers the whole class as a group. On the other hand, others are concerned about small groups within the class.

Although some educators advocate having the whole class as a group, they warned against having very large groups. Wheelan and McKeage (1993) argued that groups which exceed a certain number of members would not perform successful work. Such groups would develop conflicts among members and lead to sub-grouping. They believed that the larger size does not help members in building trust in each other. Also, the distance between members in such large groups would make it more difficult to be intimate with far group members. Another important disadvantage of larger group sizes would be its effects on member participation in the group's activities. Shaw (1981) believed that larger groups have some advantages in certain situations, such as brainstorming, as they offer a wide range of knowledge and experiences as well as offering more opportunities for group interactions. On the other hand, he recognised the disadvantages of having larger group sizes. Shaw (1981) argued that members' participation would not be evenly distributed among group members in larger groups, resulting in a minority dominating the group work and, on the other hand, a free rider effect may result, due to anonymity. These issues lead to concerns about the number a group should not exceed. Researchers have suggested that between 10-15 members is to be preferred (Ehrman and Dornjey, 1998; Shaw, 1981; Jaques, 1987).

On the other hand, other researchers thought that to gain the most from a learning experience, students should be in small groups. The preferred number is usually somewhere between 2-6. In the current study, the physical setting played a decisive role

with regard to group size, as the aim was to investigate students working co-operatively around computers. Teachers were asked their opinions on this issue, and an attempt is made later in the thesis to suggest a suitable group size.

Ability

> *"The "engine" that runs co-operative learning is always the same: heterogeneous groups working toward a common goal. In almost every other aspect, however, the methods differ from one another"* (Slavin, 1985, p. 7).

It seems from this quotation that there is total agreement that a co-operative learning group should consist of heterogeneous members. This is, actually, not the case. Again one could find two orientations with regard to students' abilities in a learning group. The first one, as illustrated by Slavin's words, believes that students should have different abilities. As Jaques (1987) put it, "As a general rule, a heterogeneous mix of students in each group provides the best chemistry for interaction and achievement of task" (p. 291). Proponents of heterogeneous grouping argue that experimental studies proved that this way of grouping is beneficial for students of all abilities (Simsek and Benhang, 1992; Dalton et al. 1989; Gabbert et al. 1986; Yager et al. 1986). They, also, claim that each student from high and low ability categories would benefit. The low ability students will have the opportunity of being supported and encouraged. On the other hand, the high ability students benefit from being the explainers to their partners (Webb, 1991; Johnson and Johnson, 1995).

On the other hand, homogeneous groups are sometimes preferred. Some researchers claim that this method of grouping occurs in naturally developed groups because people tend to select similar people and others who are different often leave the group (Levine and Moreland, 1990).

However, the term "homogeneity" is used in describing a wide range of characteristics such as attitudes, personal preferences and interests, personality, age, ethnicity, ability and so on. This means that it is difficult to have a truly homogeneous group. A certain level or type of homogeneity might be needed for special purposes such as coping groups (Williamson, 1988), while for most educational purposes the heterogeneous group is the valued way of grouping.

In view of the debate surrounding this issue, the researcher felt that this, too, was a topic about which teachers' opinions should be gathered.

Gender

Several studies on the issue of the effects of gender in co-operative learning groups show that gender has an effect (Webb, 1984; Dillow et al., 1994). The gender factor in composing a group is not, however, relevant in Saudi Arabia, where there is a strict separation between the sexes in all educational stages.

3.6. Advantages of Co-operative Learning

Research conducted about co-operative learning has shown that there are many advantages of this method of learning. Johnson and Johnson (1990) investigated 323 studies throughout the period of the twentieth century, comparing achievement in co-operative vs. individualistic and competitive learning. Their indicators (criteria) of achievement included mastery and retention of material, quality of reasoning strategies, process gains, and transference of learning. They concluded that:

> *"On the basis of research conducted to date (which is considerable), it may be concluded that generally, achievement is higher in co-operative situations than in competitive or individualistic ones and these co-operative efforts result in more frequent use of higher-level reasoning strategies, more frequent process gain, and higher performance on*

> *subsequent tests taken individually (group – to individual transfer) than do competitive or individualistic effort"* (p. 26).

Astin (1977), also, found that student retention is increased when they are involved actively in the learning process.

Co-operative learning offers several advantages in the social aspect. These social benefits occur at all levels such as students' interaction with their peers, teachers, and administrators.

Many researchers observed how relationships between students from various racial or ethnic backgrounds were affected by co-operative learning and found positive effects (Slavin, 1980). These positive relationships are due to their understanding of differences, which leads to their learning how to resolve any problems that arise in their regular meeting (Johnson et al, 1985). This deeper understanding of cultural differences results from the collaborative setting in which they are encouraged to debate and discuss each other's ideas and thoughts (Yager et al. 1985).

This advantage represents a very important benefit for the context in which the current study took place, as students at the Language Institute come from a wide range of racial and ethnic backgrounds. The researcher proposes that co-operative learning may help in promoting better relationships between individual students, as well as improving relationships among all the different groups in the institute.

Students' interpersonal relationships are improved in co-operative learning classrooms. Students in co-operative groups take an interest in their peers' performance. Group interdependence and the social nature of co-operative learning interact and result in improved interpersonal relationships between learners (Johnson and Johnson, 1987).

One of the benefits of co-operative learning is that it creates a social support system through continuous group building activities (Cohen and Willis, 1985). Students in co-operative learning groups will know each other better and better as the course goes on. They will meet out of the class, for example, to study or eat together and many more activities (Bean, 1995).

From another point of view, related to benefits of co-operative learning on the individual learner level, there are many advantages. In cases of co-operative learning, instead of passively listening to their teacher giving information, students are actively engaged in the process of learning. Students' higher level thinking skills are developed through their collaborative constructive interaction (Mercer, 1994). These developments takes place through their verbal interactions (see sec. 3.9 on talk and its importance for learning).

Furthermore, co-operative learning plays a very major role in developing and improving oral communication skills of students participating in a co-operative learning group. This is particularly relevant in the context of the present study, as oral skills are an important part of language learning. In cases where students tutor each other, they have to have a clear idea about the presented issue and communicate it to their partner orally (Neer, 1987). Near also found that public speaking anxiety was significantly reduced if students were able to express their ideas initially in small group settings. Discipline-specific oral skills are very important. Tannenberg (1995) emphasised this, citing as an example, the specialist terminology used in the computer sciences. He argues that familiarity with specialist language opens the door to wider and deeper learning of subject matter. As he put it:

> *". . .[S]tudents. . . can then enter into the culture of our disciplines. They will be able to understand specialized publications and talk with more knowledgeable practitioners. That is, acquiring the language of the*

discipline opens the portal to the vast store of knowledge within the discipline. We should therefore not minimize the value of having our students able to talk with one another about their work in the disciplines that we teach. The social setting of CL provides this opportunity."

Researchers have also found co-operative learning builds self-esteem in learners (Webb, 1982) and promotes their attitudes to the subject (Keller, 1987) .

Also, Johnson and Johnson (1990) found that assigning students to different roles in the learning group (including the leader role) in rotation, so each member practises all roles, will enhance the development of leadership skills. Another important advantage of co-operative learning is that it provides rich experience for students who will be teachers in the future. Teachers tend to use the methods that they experienced as students and if they were exposed more to co-operative learning, they would use more co-operative techniques, rather than the lecturing or competitive methods (Felder and Brent, 1999).

For this reason, the researcher is of the opinion that learners should be given the chance to experience styles of teaching and learning other than the traditional one currently applied both in these institutions and in almost all stages of schooling in Saudi Arabia. Implementing co-operative learning would give students a richer experience to draw on in their future role as teachers.

3.7. Models of Co-operative Learning

There is a great diversity in co-operative learning approaches and models as a result of its broad definition. Models of co-operative learning may be informal or may have more specific instruction and procedures resulting in a formal approach.

The two views of co-operative learning, i.e. the co-operative and collaborative (see Section 3.2) indicates what form or model is to be applied in the classroom. Figure 1

helps to clarify the status of the model of implementation, in which the teacher's theoretical orientation would play a major role in the decision to implement one or another method or approach to co-operative learning. Advocators of a rigidly structured approach to co-operative learning would rely on several models suggested by researchers in this field.

3.7.1. The Informal Approach

From Figure 1, it is clear that as the teacher's choice is at or closer to the right of the figure, the formality disappears from the implementation. This view of informal co-operative learning is not the same as what Johnson and Johnson (1992) claimed. They described informal co-operative learning to be short meetings between students to share and discuss their information. Actually this informal approach to co-operative learning is more used in the UK as opposed to the USA (Topping, 1992).

The informal co-operative learning approach has links with sociocultural theory (Vigotsky, 1962, 1978) and the self-directed approach to learning (Knowles, 1975). It

> *"emphasises internal moderation by learners themselves...Learners learn largely through intrinsic motivation, and rewards are largely intrinsic. There is a little of any "policing" by a teacher or a tutor. There is much choice by learners in decision making and in group processing. There is often internal assessment of learning, which may involve self, peer and tutor collaborative assessment. The learning goals are largely defined by the learners themselves"* (McConnell, 1994).

The informal approach would be suitable for learners who already have group skills, e.g. older, more mature students, such as those at the university level, considered by this study.

3.7.2. The Formal Models of Co-operative Learning

Saying that co-operative learning differs in the way of implementation between a highly structured and a loose approach would prove the need for certain conditions to be applied in order to label a technique as co-operative learning model. Lynam and Foyle (1989) suggested 10 conditions for a co-operative learning model that are necessary for successful implementation.

These conditions are:

1. The teacher identifies the taught content and determines the criteria of mastery.
2. The teacher decides the most appropriate technique for the specific objective and determines the group size.
3. Heterogeneous learning groups are assigned, since they have more potential for success in co-operative learning in which group differences promote co-operation.
4. The classroom is rearranged to facilitate interactions between students.
5. Students are taught group processes as needed to ensure fluent group work.
6. The teacher clarifies the purpose the expectations of the group activity taking place and the time line as well.
7. The teacher presents the material using the approach he or she has selected.
8. The teacher monitors interactions throughout the group activity to give prompt assistance and clarification as needed. Also the teacher monitors group skills.
9. The teacher evaluates students' results as a group and as individuals.
10. The teacher rewards successful groups in various ways, e.g. verbal praise, class newsletters, etc.

Woodbine (1997) proposed three basic components of co-operative learning as follows:

1. Students are in small groups (2-5 students per group) to perform a task together.
2. Various types of tasks may be tackled, like fact sheets, concepts, problem solving, and creative thinking.
3. The teacher will change his role from instructor to a facilitator and coordinator as he sets guidelines, encourages co-operation, monitors performance, and socializes with the groups.

Beside positive interdependence, individual accountability, and group processing, Cottell and Millis (1992) drew attention to the importance of appropriate grouping. They suggested that groups should be structured to accommodate heterogeneity with careful planning. Students' performance should be monitored and the group kept as it is or its composition changed depending on the tasks and objectives set.

Here are some details of these formal models of co-operative learning.

1. The Group Investigation Model

The group investigation model was firstly developed by Sharan and Sharan in the mid-seventies (Sharan and Sharan, 1994). This model is considered to be the most complex model of co-operative learning. Deciding what should be learnt, organising groups, presenting the material to others in the classroom are under the responsibility of the students in the co-operative group. The group is heterogeneous academically and ethnically and consists of 2 – 6 group members. Group members plan their task, goals, and learning procedures while the teacher monitors the group's progress and offers needed assistance and feedback. The group then analyses information and plans a presentation to the rest of the class. The group presentation ought to involve the rest of the class in their topic. The teacher co-ordinates these presentations.

Evaluation of each group's work depends on its contribution to the work of the class as a whole.

2. The Student Team – Achievement Divisions (STAD)

The Student Team – Achievement Divisions (STAD) model was developed by Slavin in the late seventies. Some researchers consider this model to be the most successful co-operative learning model when compared with traditional methods (Newman and Thompson, 1987). The emphasis here is placed on the review of teacher taught materials through peer assistance games. Students form 4-member heterogeneous teams after the lesson presentation by the teacher. Rewards are distributed to team members through an accounting system performed by the teacher without involving students in face to face competition. Students' scores in individual quizzes are computed and then compared with their previous record. Slavin (1994) claimed that this model has been useful in grades 2-12, in material in which questions with one right answer were presented.

3. The Teams – Games – Tournament (TET)

The Teams – Games – Tournament (TET) model was introduced in the late seventies by Devries and Slavin (1978). In this model, the quizzes and the improvement of scores are replaced by a system of academic game tournaments. Teachers divide students into 4-5 member learning groups. Each group reflects a cross section of academic levels and racial groups, and both sexes. Team members are prepared for participation in the tournament through peer tutoring. The tournament is usually held once a week, lasts 40 minutes and involves short answer questions. Assignment to tournament tables is determined by prior performance. This model has also been found to be successful in grades 2-12 for any materials in which one answer is presented. Also this technique was

found to be effective in enhancing academic performance when compared to individualised or traditional learning methods.

4. The Jigsaw Model

The Jigsaw Model is a task specialisation model (Aronson et al. 1978). Each student in the 4-6 member groups is assigned to a different portion of the task in a heterogeneous group. A group member has to learn his part of the material, be responsible for it, be responsible for completing his part of the task, and in some cases, teaching others in his group about it. All groups study the same material. They are provided with a clearly defined task and a set quantity of information. The mastery of information is assessed by testing each student individually.

5. The Jigsaw – 2

The Jigsaw – 2 was put forward in 1987 by Slavin (Slavin, 1990). In this model, students work in 4-5 member groups. Students are assigned to read a common narrative, instead of being assigned to specific parts. Students then receive a particular topic on which to become expert. Students with the same topic meet together as in the Jigsaw, where they teach the material to the original group. Students then take quizzes individually to evaluate their learning.

6. The Group of Four Model

The group of four model was introduced by Burns and Bozenan (1981). They based their model on the specific rules of the co-operative learning principles that aid the teacher in structuring the group processes for students. Those rules are:

1. Responsibility of students for their work and behaviour.

2. Students have to be willing to help any group member who asks for help.

3. Students may ask the teacher for help, only if all four students in the group have the same question.

The founders of these models observed that the roles most often utilised by the student are the doer, the questioner, the prober, and the summariser. These roles are flexible and may be changed within the same group session. The contribution of individual work and group projects are both used in this model. The group learning outcome is reported as a whole activity competing with other groups' outcomes in the classroom.

7. Team-assisted Individualization (TAI)

The team-assisted individualisation (TAI) model which was introduced by Slavin, Leavy, and Madden (1984) combines individualised instruction with 4-5 heterogeneous teams (as used in STAD and TGT).

Students take the whole responsibility for their checking, management and routing of work, and for helping other group members. Their teachers will be free to instruct small groups. Progress of the team is based on the number of units completed by each of the team members and the accuracy of each of the units.

Slavin (1990) claimed that this model provides learning at the student's own level and allows the student to progress at his own rate. He also concluded that the TAI model has positive effects on normal progress students.

8. Co-operative Integrated Reading and Composition (CIRC)

The Co-operative Integrated Reading and Composition (CIRC) model by Madden Slavin, and Stevens (1986) was designed to teach reading and writing in upper elementary grades. Students in this model are assigned to different reading teams. The teacher in such a classroom works only with one co-operative group at a time, while all

other groups engage in cognitive activities. Those activities include a wide range of activities like reading, predicting story endings, summarising stories, writing responses, practising decoding, and learning vocabulary.

The co-operative group follows the sequence of the teachers' instructions, team practices, team pre-assessments, and quizzes. Quizzes may be delayed until each group feels that its members are ready.

9. The Learning Together Model

The learning together model by Johnson and Johnson (1990) has five basic elements: positive interdependence, face to face promotion, individual accountability, social skills, and group processing. These five elements are discussed separately in the next section as they are widely accepted by researchers in the field of co-operative learning.

10. The Co-operative Test – Review Model

The Co-operative Test – Review Model was introduced by Steinbrink and Jones (1993). This model involves forming co-operative learning teams. These teams are then provided with review material that focuses on the specific concepts and skills to be evaluated at a later time. Each co-operative team has different goals and tasks from those of content study groups associated with co-operative learning. Implementation involves locating or constructing a test for a teaching unit. Then, the next step involves developing one or more focused study items.

For each test item in this model, it is necessary that the teacher write study items and skill- level tasks that align the study sheet with the evaluation instrument. Students are then assigned to mixed ability groups in which one student is needed to assume the leadership role. The teacher then distributes the study items to the group where students

will interact, discuss, and answer the test review items. A whole class review of the material will take place as the groups finish their activities. This review can be done through review games or simulations.

These models are clearly structured to very specific details. Teachers are not free to change or disturb the specified structure of their lessons. This reflects the idea of structured lessons, external motivation and low learner control of the process of learning, shown on the left side of figure 1.

What to choose: formal or informal?

The answer to this question depends on several factors. These include the questions to be asked such as: Is the activity learner-centred or teacher-centred? Is the activity structured or not? Does it impose external motivation or intrinsic motivation? And is the aim of activity knowledge transmission or knowledge transformation?

The teacher's theoretical orientation with regard to these questions would play a major role in deciding which way co-operative learning will be implemented. Apparently, teachers who hold the view of co-operative learning in its transmission approach would decide to adopt the rigidly structured models. On the other hand, the informal approach to co-operative learning would suit teachers who take a transformational view of co-operative learning. Teachers in the Arabic Language Institute seem to be in the transmission phase, but this issue needs to be investigated in future research. However, this study advocates an inclusive approach to implementation, whereby each could apply co-operative learning at some level. Also, the nature of learning content could contribute to the process of selecting the approach. In the present study, an informal approach was adopted.

3.8. Talk and its Importance for Learning

Language is considered to be central to achievement that would predict success in education. In the school context, for example, assessment of a learner's achievement is almost always highly related to his ability to display knowledge (Corson, 1988). Talk and discussion is the most noticeable and the most frequent occurrence in the classroom (Al-Agla, 1996). Barnes and Todd (1978) believed that engaging learners in a joint task deals with knowledge as a negotiable commodity. As they put it:

> *"Our point is that to place the responsibility in the learner's hand changes the nature of that learning by requiring them to negotiate their own criteria of relevance and truth. If schooling is to prepare young people for responsible adult life, such learning has an important place in the repertoire of social relationships which teachers have at their disposal"* (p. 127).

Interacting with others is central for learning. As the Arabic saying goes, " from discussion, the light comes". Vygotsky (1978) believed that "*learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in co-operation with his peers*" (p. 104).

Sutton (1981) argued the importance of the learners' confidence in using language, being articulate and able to explain their thoughts as well as using language as a tool for thinking with.

To ensure that the benefits of verbal interaction are attained, it is important for the teacher to observe learners' interactions. One of the original studies concerning the analysis of students' interaction in a joint activity was the study by Barnes and Todd (1978). They found that some groups engaged in destructive interactions and members of these groups were verbally attacked. Such negative behaviours have to be observed

and treated by teachers to ensure constructive interactions. Good, Reys, Graouws and Muir (1988, 1989), reporting on their detailed transcripts of recordings of students' co-operative learning, found many advantages of co-operative learning. On the other hand, they reported some negative observations of recordings, e.g. students sometimes attempted to act independently, with no co-operation with other students. Some students were not active in the group work and seemed to be passive, and not all students were found to have the communication skills that are necessary for constructive interaction.

3.8.1. How do collaborative interactions enhance learning?

Webb (1983, 1991) considers the situation in which students give detailed and elaborated explanations as the most consistent, positive predictor of achievement. This criterion means that the student who gives explanations is the one who benefits more. Explaining could be at any point of a continuum that starts from simply giving an answer to a very detailed answer. Webb (1991) conducted a meta–analysis of research done regarding the issue of explanations. Her results revealed that (1) elaborated explanations are correlated to the explainer's performance (not the explaineer's) and (2) non elaborated help is negatively correlated to the explainee's performance, especially in cases where the explainee needs or asks for more elaborated explanation.

Explanation is found in many studies to have positive effect, similar to Webb's results. It is found to be beneficial not only with peer collaborators, but also for oneself. The positive effect of self- explication was observed when a learner was instructed to explain to himself (Chi, Bassok, Lewis, Reimann and Glaser, 1989).

When a learner is a member of a successful learning group working for a shared goal, each learner has to (1) share ideas relevant to the group discussion and (2) have a

common conception of what they are trying to achieve by it (Barnes and Todd, 1978).

Sharing publicly thoughts and ideas has several advantages. As Phelps (1989) put it:

> *"In order to work productively with their partners, children must publicly recapitulate their own energizing understanding of the task. This, we believe, is a process that strongly facilitates intellectual growth, because if forces the subjects to bring to consciousness the ideas that they are just beginning to group intuitively. The responsibility that children feel for communicating well with their peer partners induces them to gain greater conceptual clarity for themselves"* (p. 152).

Student interactions can be regarded as a strong indicator of the extent of their engagement with the lesson, and was therefore important to be considered in this study. Accordingly, engagement was investigated through observation and analysis of student interactions, as well as through student interviews and teachers' opinions.

3.9. Computers as an Aid to Collaborative Learning

Newman (1995, p. 186) expressed the view that: "computers in schools have as much potential for reducing collaborative learning as for promoting it".

Computers are used in education to develop students' skills in different ways. Sometimes they are used as a "tutor" in a direct approach to teach skills. On the other hand, considering the computer as a "tool" constitutes an indirect approach (Hughes, 1990, Underwood and Underwood, 1990). A third way in the use of computer as a "mediation means" (Crook, 1994).

The computer as a "tutor"

"Goodbye teacher. . ." Was an ironic title for a paper published in the 1960s. Keller (1968) in this paper tried to investigate educators' concerns about the role of the teacher

in a computer environment, as there were general concerns that teachers would be casualties of the new phenomenon of individualised learning and the learning machines.

This view of computers in education still engages many educators now (Marai and Alhilah, 1998; Fletcher, 1996). Crook (1994) drew attention to a headline by the education correspondent that appeared in the *Times*, "A teacher on every disk" (The Times, 10 July, 1984). Another article, in *Alnadwah*, a Saudi newspaper (Khawja, 2000), argued that computers will help in reducing costs through replacing teachers. This illustrates that the view of computer as a " tutor " that would take over the teacher's role is still credible (Crook, 1994).

Crook (1994) argued that this view of the computer as a tutor is connected to the Computer Aided Instruction (CAI) tradition which involves two goals in tutorial software used in education. These two goals are individualisation of tasks to the learner's needs and delivering constructive feedback (Gan, 1994).

Intelligent Tutoring Systems (ITS) or as it is sometimes called, intelligent computer assisted instruction, is the advanced version of CAI (Chapman, 1993; Burns, Parlett, and Redfield, 1991; Anderson , 1984; Anderson et al. 1990). The attraction of such systems has been the prospect of "providing each student with individualised tutorial interaction, approximating what an individual human tutor might provide" (Chapman, 1993, p. 351). This means that the success of a program depends on its ability to determine each learner's level, capabilities and needs then use the program's intelligence to provide unique tutorial instruction.

Usually, these intelligent tutoring systems are not used in schools, due to the high cost associated with them. They are more used in military and industrial training (Katz and Lesgold, 1993; Crook, 1994).

However, the computer as "Tutor" view may reduce the opportunities that this new technology could offer. Tutorials, could be argued to help in certain aspects like drill and practice activities. On the other hand, the technology is capable of supporting distinctively challenging and innovative activities, as well as re-formatting more familiar tasks (Crook, 1994).

This suggests that the view of the computer as a tutor is mainly associated with individualistic learning, rather than co-operative learning. This was not the view adopted in the current study. This is not to deny that the computer as tutor may be of great benefit to students if there were suitable educational software and open access to computers to perform drill and practice and mastery learning activities. Nevertheless, the perspective adopted towards computer use is not purely a resource issue; it is linked with teaching style more generally. Since the Saudi education system currently promotes an individualistic learning environment, it may well be that Saudi teachers would take the "computer as tutor" perspective. The danger is that this rather mechanistic approach would perpetuate problems already inherent in the current teaching approach, such as isolation of students.

The computer as a tool

By definition, a tool is "an implement or device used directly upon a piece of material to shape it into the desired form" (Encyclopaedia Britannica, 1987, p. 712). Considering the computer as a tool means that it serves functions beyond itself (Salomon, 1993). Most of the educational software used in schools today is not specific to a particular curriculum area. Rather, computer programs like word processing, data base and so on are considered to be general tools, to be used everywhere.

Keeping this view of the computer as a tool would be the best way of using computers in the classroom, according to some researchers. Underwood and Underwood (1990) suggested that:

> *"the most useful pieces of educational software are those that also do not provide right or wrong answers so much, as provide opportunities for the development and exploration of ideas. The aim of these activities is not an end in itself, in most cases, but is to provide general skills, which can be used in the solution of other problems"* (Underwood and Underwood, 1990, p. 29).

This view of the computer as a tool could be very helpful for teachers adopting computers in their teaching, especially in cases where there is a shortage of educational software. Teachers could use generic software such as word processing to set a task for their students and ask them to do it co-operatively. This view is related to the one presented in the next section, of the computer as a mediational means. Even more important for this thesis than the resource implications of the "computer as a tool" approach is its association with a creative, problem-solving style of teaching and learning which lends itself to student co-operation. This, in turn, as indicated in earlier sections of this chapter, may have both cognitive and social advantages for students.

The computer as mediation means

The computer as " mediation means" is drawn from the metaphor of the computer as a tool, and reflects its power in the mediating role of the technology (Crook, 1994). This mediating role supports the communicative process of teaching and learning. Teasley and Rochelle (1993) stated their view of the role of the computer in supporting learners' collaboration as follows:

> *"We see the computer supported contribution to collaborative learning as contributing a resource that mediates collaboration. In ordinary circumstances one cannot imagine two 15-year olds sitting down for 45 minutes to construct a rich shared understanding of velocity and acceleration. But in the context provided by the Envisioning Machine activity, our students were successful in doing just that"* (p. 254).

The distinction between the different roles that computers can play according to the broad views of a "tutor" or a " tool" has to be taken into consideration. Its significance comes from the fact that a "tutor" approach is, almost always, associated with an individualistic approach to learning, whereas the co-operative approach could be better encouraged by the "tool" perspective, especially focusing on the computer's mediating role.

Thus, introducing computers without other changes in the classroom, such as teaching approaches, will make no significant improvement. As Papert (1987) put it, "*If the role of the computer is so slight that the rest can be kept constant, it will also be too slight for much to come of it.*"(p.26)

3.10. Effectiveness of Co-operative Learning

It is difficult to decide how the effectiveness or productivity of co-operative learning is to be determined. Several outcomes of these co-operative methods include cognitive, affective, personal, and social outcomes.

Being limited and bound only by the raised scores of achievement tests will imply losing great opportunities for positive outcomes from co-operative learning (Graves and Graves, 1990; Newmann and Thompson, 1987).

Some researchers investigating the outcomes of co-operative learning found task-related talk to be a predictor of the effectiveness of a co-operative learning group (Leechor,

1998). Cohen and Intili (1981) and Cohen, Laton and Leechor (1989) noticed a consistent pattern, that gains on concepts, applications and content-referenced tests were related to measures of frequency of task-related interactions. Cohen (1994) pointed out the importance of task-related interactions, especially in situations that have no one right answer: "More specifically: given a problem with no one right answer and a learning task that will require all students to exchange resources, achievement gains will depend on the frequency of task-related interaction".

Students' motivation toward learning is another important outcome of co-operative learning. If students are satisfied by their experience of learning, this will result in improvements in their attitudes and achievement (Garfield, 1993). This would happen naturally in a successful co-operative learning classroom where students value themselves and their abilities and actively participate in constructing their own and peers' knowledge.

Having a better learning school environment will result in positive student relationships. Research supports the improved interpersonal and social relations as a result of implementing co-operative learning strategies in the classroom (1999). These improved relations would provide a better environment, socially and academically. In this study, teachers' perceptions of the advantages of co-operative learning were explored as they could play a major role in convincing them to adopt such a style in their own teaching. In addition, students were interviewed and observed to see what benefits of co-operative learning appeared.

3.11. The Importance of Teachers' Beliefs in Co-operative Learning

"[T]eachers who use small groups in their classrooms see themselves as more than a store of related facts. Rather, they perceive themselves as highly skilled in stimulating personal growth and behaviour change in students. These are teachers who are analysts and facilitators of students' learning" (Boschee, 1991).

Teachers' beliefs acquire central importance in co-operative learning for two reasons. The first one comes from the research evidence (Meloth and Sanders, 1991; Grossman et al., 1999) that teachers are very central stakeholders in the process of educational change, reform, and adapting innovations to their classroom practice. The second is related to the different theoretical considerations of co-operative learning. Teachers with a certain theoretical orientation towards co-operative learning will reject it if it is not compatible with their own.

Research suggests that if teachers' beliefs are ignored, no innovation in education will succeed. Teachers' beliefs are important factors in determining their they practice in the classroom. Many studies claim that the way teachers approach a new classroom strategy is related to the match between their beliefs and the built-in assumptions in the new method (Hollingsworth, 1989; Munby, 1984).

However, field research findings do not always reach the same conclusions about the relationship between teachers' beliefs and practice. Deford (1985) in her research of teachers' theoretical orientation toward reading and their classroom practice, found a strong relationship. On the other hand, some studies found no relationship between teachers' beliefs and their actual practice in the classroom. Harste and Bruke (1977), in their research on the relationship between teachers' beliefs and their reading classroom practices, found contradiction between their observations and teachers' reports. They

concluded that "despite theoretical statements, teachers are theoretical in their instructional approach to reading" (p. 32).

The teacher's role in the co-operative classroom will change dramatically. Instead of being the only source of information and knowledge in the traditional classroom, teachers have to perform different roles in the co-operative learning approach. Instead of being the "sage on the stage", for example, a teacher will be a "guide on the side" (Meloth and Dearing, 1999). This change derives from the fact that teaching in co-operative learning is shifted from the transmission of knowledge and information to transaction and sometimes transformation (Brody and Davidson, 1998; Bruffee, 1993). Ruth (1997) describes the traditional and the new situation in what he calls "discovery learning" as follows:

> *"The model that many of us professors have used for centuries views the student as a vessel to be filled at regular intervals with knowledge. It's certainly the one I have used and the students seem to expect. The alternative. . . is that the student is a co-discoverer of knowledge and the professor is responsible for seeing that the discovery takes place."*

In the light of the foregoing, it was of interest in this study to explore where Saudi teachers at the University's Language Institute stood in their views on co-operative learning.

3.12. The Importance of Teachers' Attitudes to Computers

Advances in technology in the last decade of the twentieth century gives education many new approaches to get the best of the whole educational process. "CHANGE" becomes the most used word in the world today. However, this change in every aspect of life is not profound in the field of education. Engineers, chemists, and medical doctors from the nineteenth century, for example, would not clearly recognise materials

that are used to perform their tasks nowadays. Papert (1993) described the situation for teachers as:

> *"The time travelling teachers would respond very differently to a modern elementary school classroom. They might be puzzled by a few strange objects. They might notice some standard techniques had changed – and would likely disagree among themselves about whether the changes they saw were for the better or the worse – but they would fully see the point of most of what was being attempted and could quite easily take over the class"* (p. 1).

Research (Kagan, 1992; Czemiah et al., 1999) supports the idea of the importance of teachers' attitudes toward computers in the process of implementation. Many researchers (Lawton and Gerschner, 1982; Marcinkiewicz, 1993/94; Beck, 1997) have concluded that teachers' attitudes play a central role in accepting computers in the classrooms.

However, one can find many studies showing little use of computer in schools. "It has been recognised that many of the barriers to the adoption of microcomputers [in schools] are specific examples of the barriers to change in general" (Grunberg, 1991).

Many reasons underlie the slow integration of computers in the curriculum. One of these is that teachers see no need for such a curricular change (Heywood and Norman, 1988). Fullan stated that teachers' perceptions of the effectiveness of the change are another major factor (Fullan, 1982). Griffen, based on a review of CAL literature, listed many factors impeding implementation of CAL and teachers' resistance appeared in that list (Griffen, 1988). Even though some institutions have made efforts to supply advanced hardware, however, these efforts were pointless as they did not consider teachers' attitudes toward computers. As Hope put it:

> *"You can't throw computers down their throats [teachers'] because certain teachers would just have it in the room collecting dust"* (Hope, 1996).

Since implementing IT is linked to an institutional decision, it is important to have consistent implementation with the institution's strategies of IT support (Grunberg, et al; Hamilton, 1998; Laurillard, 1993; MacFarlane, 1992).

Since administrative support is important for innovation, this was taken into account in the design of the present study, and administrators' views were solicited through interviews.

Summary

It has been suggested in this chapter that co-operative learning is one of three basic learning models, distinguished from the other two (competitive and individualistic learning) by the values assumed. In particular, it promotes intrinsic motivation, feeling of self-efficacy and respect to the contribution of others. Socio-Constructivist, Socio-Cultural, and Shared Cognitive theories provide the main theoretical underpinnings for co-operative learning.

There is widespread recognition among writers in the field of co-operative learning, that it encompasses five basic elements: positive interdependence among group members in order to achieve their goal, individual accountability of group members for their contribution; promotive interaction, whereby group members encourage and facilitate each others' effort; social skills of communication, acceptance and conflict resolution; and group processing skills. The success of co-operative learning will also depend on group dynamics, including the effect of variables such as age, group size, and ability; and by the nature and quality of verbal interactions between group members.

Research suggests that co-operative learning promotes academic achievement by encouraging the use of higher-level reasoning strategies, it is also said to benefit

students' personal and social development in many ways. It can be operationalised in the classroom in many different ways, with varying degrees of structure and formality, but in any case will demand a significant change of role on the part of the teacher, who will become an advisor or facilitator, rather than purely a transmitter of knowledge. For this reason, the teacher's attitude and theoretical orientation will also affect the implementation and the outcome of co-operative learning efforts.

Co-operative approaches to teaching and learning can be integrated with the use of computers as a cognitive tool and especially as a mediation means. Again, this will depend on teachers' attitudes to computers. These who see no need for curriculum change, or who lack confidence with the new technology, are unlikely to accept computers in their classrooms, or to deploy them effectively in subject-teaching.

This chapter has established the concepts with which this present study is concerned, and has highlighted the importance of teacher attitudes, both to co-operative learning and to computers. The next chapter explains the methods used by the researcher to conduct this study.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

RESEARCH DESIGN AND METHODOLOGY

Introduction

This chapter describes the methodology, choice of instruments, and procedures used to conduct the empirical part of this research. It starts by recapitulating the aims of the study. The research design is then described. The chapter goes on to describe the development of instruments used to collect data in the fieldwork period.

4.1. Aims of the Study Revisited

The main aim of the current study was to investigate the possibility of introducing computer supported co-operative learning in the Institute of Arabic Language for non-Arabic speakers at Umm Al-Qura University in Holy Makkah, Saudi Arabia. In order to achieve this aim, the researcher sought to elicit views of key participants, namely, teachers, students and senior managers and administrators, likely to be closely involved in such a development. In the case of teachers, the objectives were to examine:

- teachers' training for and experience of co-operative learning strategies in Saudi university education;
- teachers' views of the status of co-operative learning strategies with regard to control in the classroom, students' ability to assume responsibility for their own learning, and teachers' willingness to modify their own role;
- teachers' views about the benefits of implementing co-operative learning, as well as the classroom arrangement and anticipated problems.
- teachers' views about the necessary conditions for the successful implementation of co-operative learning, whether with regard to teachers or to students.

- teachers' attitudes to computers in education, which may be expected to influence the implementation of computer supported co-operative learning.

A further objective was to investigate teachers' attitudes toward computers and how they vary according to several personal characteristics. This was necessary, since the computer was to be used as a vehicle to promote computer supported co-operative learning.

Observing and analysing students' interactions during computer supported co-operative learning sessions and their views about it, constitutes another objective of this study, in order to gain as real and practical a view of this topic as possible.

The researcher also sought to explore the perceptions of university administrators regarding innovations such as the introduction of computers, and the funding and staff development issues raised by changes of this kind.

4.2. Theoretical Considerations in Research Design

The literature of research relevant to this study helped the researcher to obtain an insight into strategies implemented to obtain data to help answer the research questions. Before justifying the techniques adopted in this research, it would be helpful to describe different types of educational research.

What is meant by research?

Although there are different definitions of the word "research", some degree of agreement would be found regarding its general nature. According to the Encyclopaedia of Social Sciences (1933), it is:

> *"The manipulation of things, concepts or symbols for the purpose of generalizing and to extend, correct or verify knowledge, whether that*

> *knowledge aids the construction of a theory or in the practice of an art. The mechanic or physician is a research worker only when he attempts to generalize about all automobiles or all patients in a given class"* (p 330).

However, the word systematic is often associated with research (Grinnell, 1993; Burns, 1994). Leady (1997) defines research as:

> *" [T]he systematic process of collecting and analysing information in order to increase our understanding of the phenomenon with which we are concerned or interested"* (p. 3).

Verma and Mallick (1999) who suggested that the term research be defined in terms of "systematic inquiry" characterized research as an organized and deliberate effort to get new information or to utilise existing knowledge in order to achieve a new purpose. They also insisted that research should use reliable and valid techniques to answer worthwhile questions. It is logical, objective, and its final outcomes contribute to the knowledge of the topic involved.

4.3. Qualitative and Quantitative Research

There are two basic paradigms for research in education: quantitative and qualitative research. Both of them have contributed to improvement in education (Gall, Borg, and Gall, 1996).

Definitions of "Qualitative" and "Quantitative" are, generally, linked closely to method.

4.3.1. Quantitative Research

Quantitative research, as the label suggests, is interested in numbers. It generates numerical units that represent populations or samples. Instruments in quantitative

research are non-human such as pre-constructed tests, observational records, questionnaires, and rating scales (Moore, 1995). Data are quantified and then undergo statistical procedures to analyse them and test relationships under investigation.

There are three major categories of quantitative research; the descriptive and causal-comparative, correlational, and experimental methods (Gall, et al, 1996).

The selection of any approach would depend on several factors, such as: the research questions, the nature of data, time, the nature of subjects, funds and so on.

In this study, the information on teachers' attitudes to computers was obtained by a quantitative method, i.e. questionnaire. This approach appeared to be the most feasible one since it was desired to cover a large number of respondents from three different geographical locations. A single researcher, in a limited period of time, could not have visited so many respondents individually.

4.3.2. Qualitative Research

Some researchers find it difficult to explain qualitative research without "opposing it to quantitative research" (Moore, 1995). The online version of The Oxford Dictionary gives the following definitions of quantitative:

> *"That is, or may be, considered with respect to the quantity or quantities involved; estimated or estimable by quantity. 3 Relating to, concerned with, quantity or its measurement; ascertaining or expressing quantity."*

Then, it goes on to define qualitative as the opposite to quantitative, which implies the link between quantitative and qualitative research in data collection methods:

> *"relating to, connected or concerned with, quality or qualities. Now usually in implied or expressed opposition to QUANTITATIVE."*

In most cases, qualitative research is defined by what is not quantitative. Jack Glazier (1992) described this situation as:

> *"It is not...It is not...It is not", then he continued: " The one characteristic that all these terms share is that they tend to obscure rather than clarify the concept. The concept seems to be confusing not only because of the number of terms applied, but also because it carries different connotations for different people"* (p 6).

Chatman (1984) notes that in qualitative research, " unlike other methods, field work does not use tightly controlled variables or the creation of structured situations" (p. 436).

On the other hand, positive definitions of characteristics of qualitative research differ from the negative definitions as they are more ontological or epistemological than methodological. These positive definitions refer to qualitative research as being intensive study of a specific event, holistic, contextual, dialectical, and characterised by the involvement of the object of the research (Gall, et al, 1996; Moore, 1995; Bradley, 1993; Mellon, 1990; Grover and Glazier, 1985; Vulliamy, 1990).

For the part of this study which sought to explore teachers' perceptions about co-operative learning, which include their experience (if any) with co-operative learning, the picture of the co-operative classrooms, benefits and anticipated problems of co-operative learning, the qualitative approach seemed to be the most appropriate. This decision is supported by Bell (1993) as she said:

> *"researchers adopting a qualitative perspective are more concerned to understand individuals' perceptions of the world. They seek insight rather than statistical analysis"* (p. 6).

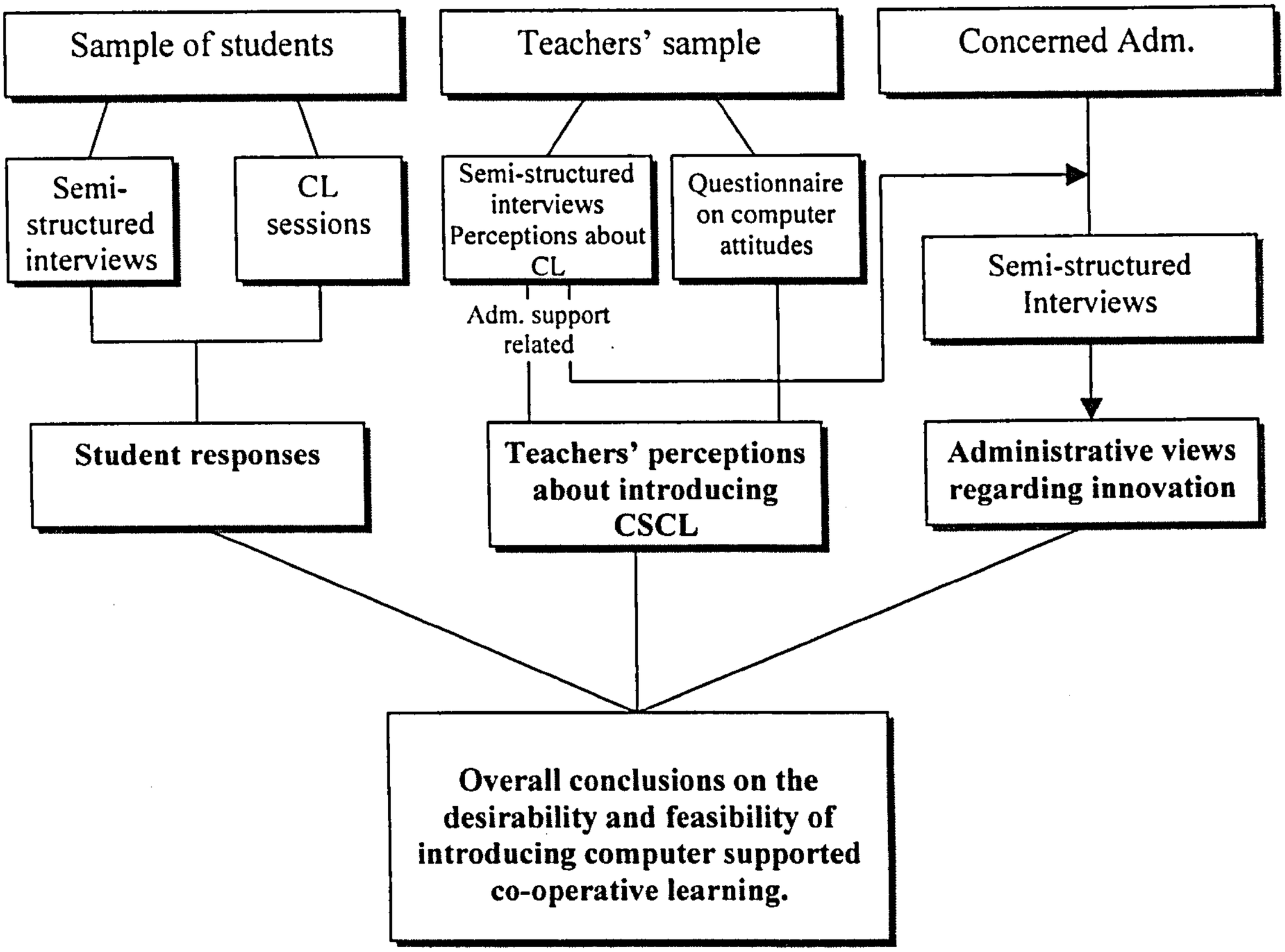
Administrators' opinions with regard to innovation were also sought by means of a qualitative approach. Thus, the researcher adopted both quantitative and qualitative methods based on the appropriateness of each method to answer his research questions.

4.4. Research Design

"Research Design" is a term which is used to describe the strategies a researcher follows to integrate the different components of the research in a coherent shape. Research design holds the different parts of a study as it is a means to structure a research project in order to address a defined set of questions (Trochim and Land, 1982).

To obtain a clear picture of what would happen if computer supported co-operative learning was implemented, it was necessary to investigate the attitudes of the various stakeholder groups towards such an innovation. Teachers' willingness to implement an innovation is not enough for its success, as administrators may oppose such an idea, or students may reject it for some reason. Similarly, although administrators' views are crucial for the process of implementation, they have no real power to force teachers to behave in a certain way in the university classroom. The third perspective is the centre of the whole educational process, the students. Students have been used to a certain type of teaching and learning , introduction of a new teaching method would make new demands on them as well as it is hoped, bringing new benefits. Thus, all three perspectives need to be investigated. The overall research design is illustrated in Figure 4.1.

Figure 4.1 Relationship between Research Components



4.4.1. Sampling Strategies

Various sampling strategies were adopted, according to the nature of the target population and the type of information required from each, as follows.

Teachers

1. For the questionnaire

The total number of teachers of Arabic and Islamic Studies at the four universities where the research was carried out was 168. Since this is a comparatively small population in survey terms, the researcher included the whole population in the questionnaire sample, in order to ensure sufficient responses from each university for meaningful statistical analysis (the actual response rate is reported in Chapter Five, Section 5.1).

2. For the interviews

Time and resources did not permit interviews with the whole of the teacher population, especially given the large distances involved, ranging from 400-1000 kilometres from the researcher's base at Makkah. The interview sample was therefore confined to the teachers of the Arabic Language Institute at Umm Al-Qura University. Here, the strategy was to conduct as many interviews as time permitted, including both genders, and a range of ages, qualifications and curriculum areas. The main constraint on selection was availability of teachers, in the light of their teaching commitments. The researcher ceased interviewing at the point where no further information seemed to be emerging, by which time 35 teachers had been interviewed.

Students

Students were drawn from the elementary level, for two reasons: it was the level targetted by the computer software used to support learning, and any future implementation of computer supported co-operative learning would be likely to start with this level. This would be in line with the usual Saudi procedure of introducing innovations at lower levels and spreading them to successive levels as students progress through the learning programme. The computer supported co-operative learning experiments had to take place outside normal class time, in order not to disrupt the on-going regular programme. The researcher was therefore dependent on the availability of students outside normal hours and their willingness to attend extra lessons. For this reason, a convenience sample was selected.

Administrators

A purposive sampling approach was adopted in the case of administrators, since the aim was to target those with specific involvement in and experience of decision making vis-

à-vis curriculum development and other issues raised by teachers. In total, five interviews were conducted. The interviewees were:

- Vice-Dean of the Arabic Language Institute.
- Head of Curriculum and Research Development Unit at the Arabic Language Institute.
- Supervisor of General Management for Information and Academic Development, Umm Al-Qura University.
- Vice Director for Academic Affairs, Umm Al-Qura University.
- Rector, Umm Al-Qura University.

4.4.2. Triangulation

The term "triangulation" is used by surveyors to measure the distance between two objects and survey the landscape by viewing the points from different angles (Neuman, 1994). He then gave an example to illustrate triangulation as:

> *"You take a 10-question multiple-choice test on your mental health and are told that you are "mentally ill." Would you not prefer to have your behavior observed by two trained independent observers for a week and have a four-hour interview with a psychiatrist before you are sent to a mental hospital? If the test results, independent observers, and psychiatrists all agreed, would you be more likely to accept their assessment? Would the three types of assessment give you greater confidence in the diagnosis than taking two more multiple-choice tests?"* (p 141).

Cohen and Manion (1994) defined triangulation in social sciences as " the use of two or more methods of data collection in the study of some aspect of human behaviour," (p 233). In fact, triangulation is not only about using more than one method of data collection; there are other types in addition to methodological triangulation. Cohen and Manion (1994) summarised these other types as being: time triangulation, which consider factors of change and process by utilizing cross-sectional and longitudinal

designs; space triangulation, which makes use of cross-cultural techniques; combined levels of triangulation where more than one level of analysis is used; theoretical triangulation where one viewpoint is utilized by drawing upon alternative theories in preference, and investigator triangulation, which engages more than one observer.

Gall et al. (1996), among other methodologists, advised that triangulation enhances validity and reliability. They argue that the essence of triangulation is the variation in some way, of the approach used to generate the findings that a researcher is seeking to corroborate.

Triangulation was used in the current study in two levels: the macro and the micro level. With regard to the macro level, teachers', administrators', and students' opinions were gathered to get as clear an idea as possible with regard to introducing computer supported co-operative learning. At the micro level in the part regarding students and co-operative learning, a triangulation of techniques, namely, interviews, observations, and transcribed recordings of sessions was used.

4.5. Research Instruments

The researcher used three instruments to collect his data: interviews, questionnaires, and observations.

4.5.1. The Interviews

Interviews, unlike some other tools, offer the advantages of the researcher being with participants in which he has the chance to explain and clarify any unclear points (Ary, et al., 1990). There are several reasons for conducting interviews in social sciences. According to Cohen and Manion (1994), interviews are a means of evaluating or assessing a person for a wide range of issues, gathering data as in a survey or an

experimental situation, or for sampling the opinions of respondents. They are rich sources of data concerning opinions, aspirations, and feelings (May, 1993). The interview is a method that is typically associated with qualitative research (Verma and Mallick, 1999, Moore, 1995).

There are several types of interviews: structured interviews, semi-structured, and unstructured interviews.

The Structured Interview

The structured interview is very similar to the questionnaire and the only difference is that questions are being asked orally (Wallace, 1998). Its label suggests the existence of a rigid structure. In structured interviews, every respondent is asked questions in the same order and wording (May, 1993). Respondents are restricted from going deeper in their responses. According to Gall, et al (1996), the structured interview involves a closed form of statements having yes or no answers, or answers from short predetermined multiple choice responses.

The Unstructured Interview

On the other hand, the unstructured interview is totally the opposite of the structured one. Saying that an interview is unstructured may not be very accurate. In fact, each interview has a structure that varies between rigidity and loose structure. According to Wallace (1998), in this type of interview, the interviewer does not have a prepared set of questions to be answered by the respondent. Instead, the gradual conversational exchange between the interviewer and the interviewee leads to eliciting the information sought. The non-directive and the focused interviews are two types of the unstructured interview having their roots in the psychiatric and therapeutic fields. In the non-directive interview, the respondent feels free to give his thoughts and the interviewer

has no pre-determined framework for a recorded answer. In the focused interview, on the other hand, the interviewer is totally acquainted with a common situation in which the respondents express their subjective responses (Cohen and Manion, 1994). This format of interview requires a highly skilled interviewer to conduct.

The Semi-structured Interview

The semi-structured interviews is the most frequently used format of research interview used in educational research. It has the advantage of adaptability, in that the interviewer can follow up ideas, probe responses, and investigate motives and feelings (Bell, 1993). Semi-structured interviews come somewhere between the structured and the unstructured formats. Bell (1993) stated that the semi-structured interview "comes somewhere between the completely structured and the completely unstructured points on the continuum," (p 93).

Advantages of the research interview

Research interviews are essential instruments used in educational research and have many advantages. Many researchers believe that interviews are flexible instruments and adaptable to the individual situation (Wallace, 1998; Sarantakos, 1994; Oppenheim, 1992; Bell, 1993). In addition, interviews allow the interviewer to answer questions from the respondents, which makes them feel relaxed, and the meaning of the interviewer's questions can be explained. This will, in turn, build up a positive environment for co-operation and truthfulness (Ary, et al, 1985). Also, people are more willing to provide data through interviews with greater validity than by completing a questionnaire (Lovell and Lawson, 1970; Openheim, 1992). Verma and Beard (1981) believed that the interview gives the researcher the opportunity to obtain additional information about the respondents, such as their intelligence, attitudes, aptitudes and interests that is of great importance in many studies. Moreover, the interview allows the

researcher to direct the interviewee to some particular orientation of the topic under investigation for further exploration in depth (Gilbert, 1996; Cohen and Manion, 1994).

To get the advantages of the research interview, the interviewer should be trained in the procedure of interviewing. Tuckman (1972) suggested guidelines to conduct an interview:

> *"At the meeting, the interviewer should brief the respondent as to the nature of the purpose of the interview (being as candid as possible without biasing responses) and attempt to make the respondent feel at ease. He should explain the manner in which he will be recording responses and if he plans to tape record, he should get the respondents' assent. At all times, an interviewer must remember that he is a data collection instrument and try not to let his own biases, opinions, or curiosity affect his behaviour. . . The respondent should be kept from rambling away from the essence of a question, but not at the sacrifice of curiosity."*

Disadvantages of research interviews

Research interviews have some disadvantages associated with them as research instruments. The first is the fact that they are time consuming (Gall et al., 1996; Cohen and Manion, 1999). If a researcher works alone, obviously, only one interview can be conducted at any one time. Besides, the nature of semi-structured interviews is such that interviews may take much more time than anticipated. In addition, interview costs are considered to be significantly higher than those of questionnaires. Cost may be incurred by the need to train interviewers to conduct the research interviews. Also, travelling costs can be high, and additional expense is involved in the recording and data processing of unstructured interviews (Frankfort-Nachmias and Nachmias, 1996).

Another disadvantage of interviews in educational research is the possibility of interviewer bias. There is a fear that the interviewer may in one way or another

influence the interviewee's response and lead the interviewee to answer in a biased way (John et al. 1977).

Although interviewers realise the importance of being as objective as possible, they may affect the responses of the interviewees if they cannot keep their biases away (Cohen and Manion, 1994).

Lack of anonymity appears to be another disadvantage that may affect respondents' openness to answer some questions that concern sensitive issues, or to which the interviewee is sensitive (Frankfort-Nachmias and Nachmias, 1996). In contrast, in mailed questionnaires, the respondents' anonymity may encourage more truthful answers.

Despite these disadvantages, interviews were chosen to be the main instrument to obtain teachers' perceptions about co-operative learning. The reason for that was because the researcher aimed to get an insight into teachers' perceptions about co-operative learning and aspects related to it, such as students' responsibility for their own learning. This topic (co-operative learning) is an unfamiliar one where the study took place, so it was expected that teachers may need to ask the researcher to explain the meaning of some questions or ideas. Also, the researcher would have the chance to probe teachers' thoughts about interesting points that may arise through the interview, which is not the case when a questionnaire is used. In the case of senior administrators, the number of personnel involved was small, and each needed to be asked a different set of questions, according to the role they perform in the university. Thus, interviews appeared to be the most appropriate option. Efforts were made to overcome possible sources of bias by giving assurances of anonymity and confidentiality (although, in fact, senior administrators agreed to be identified) and by following the advice given in the

literature regarding the manner of conducting interviews; the conduct of the interviews is described in a later section.

4.5.1.1. Interviews with Teachers

The semi-structured interview seemed to be the most appropriate instrument for this part of the current study. Firstly, semi-structured interviews allow scope for exploring issues, so the researcher could pursue any points raised by the interviewee that were unanticipated, when designing the schedule. Secondly, although the researcher, who conducts semi-structured interviews, has initial key questions to ask interviewees about, he is free to direct the interview in the appropriate direction according to responses from the interviewee, since there is no formal structured sequence that questions have to follows. The interviews with teachers aimed to explore their opinions about several aspects of co-operative learning. The first part of the interview concerned teachers' prior experience of co-operative learning. A subset of questions derived from Brody and Neil (1998), McConnel (1994), Cohen (1995) and Katz (1993) followed their answers. In cases where teachers had not tried any co-operative strategy in their classrooms, the researcher tried to probe them about the reasons for that. On the other hand, if a teacher responded that he or she had tried co-operative learning, another subset of questions followed. This subset included questions asking teachers for how long this strategy lasted, what benefits they noticed, how they had managed the class, whether they continued practising it, the approach, and so on. Another three questions were posed to all interviewed teachers. One of these three key questions concerned their views at to what the co-operative classroom will be like if the co-operative learning strategy is implemented. Another asked about their beliefs in giving their students the responsibility for their learning. The third key question considered their anticipation of benefits and problems associated with introducing co-operative learning.

During the teachers' interviews the term "co-operative learning" was not used. The avoidance of the term "co-operative" was due to the fact that in Saudi Arabia, it is commonly used with reference to charities' activities. Thus the researcher tried to avoid misunderstanding of this term and, instead, he used "group activities" and "group learning".

The first version of the semi structured type interview was seen by a senior lecturer in the Institute for Learning at Hull University, whose comments were taken into account. The schedule was then translated by two friends doing PhD research, one in Psychology and one in Education, at the universities of Humberside and Hull respectively. The accuracy of this translation was checked by back translation, i.e. the Arabic versions were translated back to English, and these versions compared with the original. Any discrepancies were discussed, and the translations amended, until the researcher and his colleagues were satisfied with the accuracy of the translation. This translated version of the interview schedule (in Arabic) was seen by a staff member at the college of education at Umm Al-Qura University in Makkah Al-Mokarramah to assess its appropriateness for this research (for the English version, see Appendix 1).

4.5.1.2. Pilot Interviews

The researcher piloted the interview schedule with two teachers, which was very useful for practising the administrative procedure, as well as identifying and remedying possible ambiguities of wording. The pilot interviews took much more time than the average interviews afterwards. The interviewees were free to answer questions in any degree of detail. This freedom aimed to get a clear idea of points that might otherwise have been missed or ignored. The pilot study confirmed the researcher's original suspicion that the use of the term "co-operative" may be ambiguous in the Saudi context, because of its association with charitable activities. In addition, it led to

changes in the wording of some questions. For example, an interviewee who had previously experienced co-operative learning had been asked the follow-up question, "What have you noticed?" but he complained that the question was too broad and its meaning unclear. It was therefore changed to the more specific question, "What benefits have you noticed?" The other change to question wording was the avoidance of "Why" questions such as "Why did you stop …?" or "Why did you not …?" which was found too challenging or confrontational. One interviewee said he felt uncomfortable about responding to a "why" question. When the researcher rephrased it, "What reasons may lead teachers to …?" he replied, and afterwards smiled and said, "*Yes, this made me talk about what you asked me openly. Even though what I said was based on my own experience, it was easier to say it as if it applied to others.*"

The pilot study also provided excellent training in the procedural aspects of conducting the interviews. An important point learned was not to rush the interviewee. One of the interviewees, when the researcher passed a bit quickly from a question to another, said, "*I am just gathering and articulating my thoughts --- Could you please wait until I say what is going through my mind or you are sure I've nothing to add?*" From this, the researcher learned the desirability of pausing briefly before moving to the next question.

4.5.1.3.Conducting the Interviews

More than 30 teachers were interviewed, representing every subject area in the Arabic Institute for non-Arabic Speakers at Umm Al-Qura University.

The interviewees

The researcher interviewed 35 teachers from the Institute of Arabic Language for non-Arabic Speakers at Umm Al-Qura University. Twenty-two interviewees were male and

the remaining 13 were female. The following tables give some details about the interviewees:

Table 4.1: The male interviewees

Name	Curriculum area	Qualification	Teaching experience	Age
Abdullah	Arabic Language	PhD	15	46
Adil	Arabic Language	PhD	17	48
Ahmad	Arabic Literature	PhD	14	53
Aziz	Linguistics	PhD	18	40
Emad	Linguistics	PhD	19	45
Fahd	Education	PhD	15	47
Farraj	Education	PhD	17	56
Hamad	Arabic Language	PhD	21	60
Hussain	Comparative Literature	PhD	5	58
Ibrahim	Language sciences	PhD	17	39
Jamal	Arabic-grammar	Masters	17	42
Jameel	Islamic studies	PhD	12	36
Mohammad	Islamic studies	Masters	3	38
Muad	Islamic studies	Masters	6	34
Mustafa	Islamic studies	Bachelor	14	39
Nabil	Arabic Language	PhD	8	44
Nizar	Islamic studies	Bachelor	22	54
Salih	Arabic for foreigners	Masters	22	55
Sami	Arabic for foreigners	Masters	22	58
Qasim	Arabic for foreigners	Masters	22	57
Reda	Arabic for foreigners	Masters	22	53
Yasir	Islamic studies	PhD	18	47

Table 4.2 The female interviewees

Name	Curriculum Area	Qualification	Experience	Age
Arwa	Islamic studies	Masters	14	41?
Asma	Arabic language	Phd	13	55
Fatima	Arabic for foreigners	Masters	17	49
Haya	Arabic language	PhD	12	38
Laila	Arabic for foreigners	Masters	20	52
Lubna	Islamic studies	Masters	5	35
Manal	Islamic studies	bachelor	5	44
Mona	Arabic language	Phd	16	41
Noora	Arabic literature	Masters	17	43
Razan	Arabic literature	PhD	4	37
Sara	Arabic language	Masters	3	27
Muneera	Islamic studies	Masters	15	50
Asha	Arabic language	Masters	3	34

Interviewing the male faculty members

Only male interviewees could be interviewed face-to-face by the researcher himself, due to cultural constraint on the mingling of the sexes. The researcher asked their permission to record the interviews, but only one teacher agreed to do so. In other cases the researcher took notes during the interviews. The interviews took place at the researcher's room in the same building of the Institute of Arabic Language for non Arabic Speakers. Since the interviews were semi-structured, the interviewees were given some freedom in their responses to the questions. Each interview lasted between 50 minutes and two and a half hours, except one interview, which lasted for less than 5 minutes. This respondent held a very strong negative attitude toward co-operative learning for students in his elementary Arabic class. He seemed to be not interested in this topic at all. He asked to be excused from the interview due to a "forgotten" appointment. During the next eight weeks, the researcher tried to reschedule the

interview, but could not get his permission to continue. The individual in question insisted that he had no time or he had a class.

The interviewer started by defining the research objectives and telling the interviewee that all information he gave would be dealt with confidentially and would not be used for any purpose but this research. The researcher followed guidelines of being neutral and not letting his views and biases affect respondents' ideas or thoughts. For example, if a question about the students' involvement and participation in the classroom had been phrased: "Is it true that students are passive in the classroom?" This way of asking the question would imply the researcher's preconceived opinion about this matter. Thus, the question had to be in a neutral format such as: "How do students usually participate in the classroom?" Also, as one of the interviewees in the pilot study said that he did not feel at ease when asked a "why" question about his practice in the classroom, the researcher avoided this type in formatting questions. Instead of asking teachers questions like: " Why you do not let students interact or work together in your classroom?", the researcher used another format like: "What are reasons that prevent teachers from letting students interact and work together in their classrooms?" The researcher found participants were more willing to continue the interview as the researcher tried to use some relevant language for many respondents. Some teachers were from other countries or different parts of Saudi Arabia and the researcher in most cases tried to use words and sometimes sayings from the country or region concerned. The researcher found this way of great help in developing a friendly atmosphere with respondents. Another strategy used in conducting the interview and found to be of great help was reflecting back to the respondent the researcher's understanding of his/her response. This method helped in both checking that the researcher correctly understood the respondent's answer, and giving the respondent a sort of feeling that his/her ideas were valued. If at any time a respondent made a point that needed elaboration, the

researcher, after waiting a few moments to check whether the respondent was continuing his statement (a suggestion that emerged from piloting) said to the respondent: "Could you tell me more about your opinion on this point?" So the respondent would not have the chance for giving short or yes/no answering. Also, the researcher asked respondents in a tactful way for clarification if the answer was not clear, using statements like: "I am sorry, I could not get this point".

Some of the points raised by teachers were then taken to administrators such as the head of the research and curriculum development unit, to obtain another perspective on them; for example to see whether administrators supported innovation.

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Frey and Oishi (1995) mentioned the cost-effectiveness and the speed of data collection as a reason behind the increasing use of telephone interviewing. Also, they listed its advantages of covering geographically different locations. However, this was not the reason for using it in this research. The main aim in using telephone interviewing was its great advantage of allowing access to places that could not be approached in person, for cultural reasons, i.e. the female department. Researchers suggest that the telephone is at least as successful as face to face interviews (Sykes and Hoinville, 1988). Almost the same procedure was followed for conducting the interviews with the male teachers. Five female teachers refused to be interviewed.

Recording the Interviews

The researcher equipped himself with a tape recorder to ensure accurate recording of the interview data, but interviewees were unwilling to be recorded. Rejection of the use of tape recorders is a not uncommon problem facing researchers in the Saudi education context, irrespective of the level of sensitivity of the topic under investigation. The

researcher respected interviewees' wishes in this respect and decided, instead, to rely on note taking. The researcher tried to practise taking notes beforehand, and this proved very useful when carrying out the actual interviews. Another strategy used by the researcher that helped greatly in making notes was to develop a shorthand system for immediate writing of the respondents' responses. The first interviews were relatively more difficult than subsequent ones. The researcher started to analyse responses starting from the first interviews, which was very useful in developing a new way of writing the interview data itself. The researcher, after each interview, read and showed what was written to the interviewee, so they could confirm that he had accurately reflected their ideas.

Analysis of teachers' interviews

The analysis of qualitative data is rather more complex than the quantitative data. The presentation of the analysis does not take the form of numbers of tables; it is presented in the form of written text that may not include any numbers. Neuman (1994) stated:

> *"Qualitative. . . . . and can have more than one meaning"* (p. 405).

The fact that this rich raw data of respondents' words may have more than one meaning is one of the reasons why analysing qualitative data can be a difficult task. For this reason, the researcher tried several methods to categorise the responses. The steps followed were as follows:

1. Reading the interview transcripts thoroughly, including the researcher's marginal notes, to identify emerging themes and key concepts.

2. Breaking the data into smaller units through the process of classifying and categorising.

3. An attempt was made to categorise teachers' responses in relation to variables such as age, gender, curriculum area, teaching experience and past experience of co-operative learning, but with very rare exceptions (see Chapter Six), no clear patterns emerged, nor could any consistent "factions" among interviewees be identified. In the rare cases where association between a particular viewpoint and any other variable was found, it was noted and reported. In other cases, where there were, for example, two main strands of opinion, the researcher noted the relative size of the groups concerned.

4. After breaking down the data into smaller units, an attempt was made to organise and interpret it.

5. The foregoing steps were repeated until the researcher was satisfied that an accurate and meaningful account of the interviews had been achieved.

4.5.2. The Questionnaire

The questionnaire aimed to assess teachers' attitudes to computers in education. Questionnaires are often used to get information and feedback from a responding population. These data are then used in order to evaluate or introduce a specific idea to a particular audience (McNiff, et al, 1998).

Many higher studies researchers, as well as professional researchers, use the questionnaire as the major, and sometimes, the only tool in data gathering, as it can save time and money if it is very carefully constructed to meet the purposes of the study. As Verma and Mallick (1999) put it:

> *"For postgraduate research students and for professional researchers alike, the questionnaire is often a vital tool in the collection of data. If it is well constructed, it can provide data economically and in a form that lends itself perfectly to the purpose of the study"* (p 117).

Questionnaires typically take much longer preparation time than interviews. They require very special attention to the wording of items. Also, questionnaires are considered to be more structurally constructed than interviews. The long preparation period that includes careful wording will bring the benefit in the end. Wallace (1998) illustrated some differences between questionnaires and interviews, stating that questionnaires:

"[T]ake longer to prepare than interviews. This is partly because they tend on average to be more highly structured than interviews. Questionnaires usually also have to be very carefully written because the problem of ambiguity, since a lack of clarity in the questions cannot be immediately cleared up as they often can be in face-to-face interviews. On the other hand, questionnaires can also save time. The greater the number of informants, the more economical of time it is to use a questionnaire. To interview 60 people for only 10 minutes will take at least 10 hours, and probably much more, once travelling, etc. is taken into consideration. With such a number, a questionnaire may be the only sensible choice" (p 130).

However, these positive views do not stand unchallenged. Some criticism is grounded on the base that the individual's personality is far too complicated to be expressed in the form of a questionnaire (Lovell, et al, 1970). From the same perspective of personality, some researchers view questionnaire surveys as an impersonal process. In such a situation, the researcher cannot put subjects at ease and obtain their help and support (Sarantakos, 1994; McNeil,1990) and the questionnaire's responses do not allow deep analysis of the respondent's way of thinking and feeling (Gall et al.1996). On the other hand, some researchers have criticized the existence of some procedural and practical constraints. Sarantakos (1994) Bell (1993) and McNeill (1990) argue that the poor return rate is one of the disadvantages of questionnaires and suggested building some form of personal contacts with respondents to resolve it. Moreover, the researcher should be courteous, as respondents may respond carelessly (Leedy, 1997).

Thus, a researcher should pay a lot of attention to problems associated with questionnaires from the beginning of the process of construction, in order to attain the desired objectives of his research.

Many studies contributed in helping the researcher to come up with a 39-item questionnaire.

Mei-Chi Chen (1997) adopted the Computer Attitude Scale developed by Nickell and Pinto (1986) and added a further four items to this 20-item scale. She then performed factor analysis, which revealed four factors: Positive Computer Attitudes, Feeling of Intimidation of Using Computer, Usefulness of Computers, and Negative Computer Attitudes. The first one, Positive Computer Attitudes, includes items related to the use of computers for instruction (10 items). The Feeling of Intimidation of Using Computer concerned with discomfort in working with computers (4 items). The third factor, the Usefulness of Computers, considered items related to enhanced standards of living (4 items). The Negative Computer Attitudes scale included items concerned with disadvantages of computers (6 items).

Chen (1997) used this questionnaire to assess the attitudes of 651 university instructors at the business school in a Taiwanese university. She performed tests to estimate the reliability for the four subscales. These results for the reliability were 0.94, 0.83, 0.86, and 0.80 for Positive Computer Attitudes, Feeling of Intimidation in Using Computers, Usefulness of Computers, and Negative Computer Attitudes, respectively.

First of all, the items were contextualised to be used in the field of education. The original version was about using computers in human life in general, with no particular attention to teachers or education. As the current study is concerned with teachers, every item was reworded with regard to the context of teaching.

Only the first scale seems to have an adequate number of items. An attitude scale should contain not less than 6 items. According to Oppenheim (1992):

> *"Attitude scales consist of from half a dozen to two dozen or more items- usually attitude statements- with which the respondent is asked to agree or disagree"* (p 187).

As a result, the researcher added more items to the other three scales to have at least 10 items for each scale, especially bearing in mind that some statements might be rejected if piloting revealed a need to do so.

The researcher followed the four domains suggested by Chen (1998) in the 16 items added in order to get valid scales. Also, he tried to make some negative and positive statements to get a balance in the scales.

All items and their sources are shown in the appendix.

The following table presents the attitude scale as used in its piloting phase.

Table 4.3 Attitude Scale of Teacher Questionnaires (Pilot Version)

No	Statement	Strongly Agree	Agree	Disagree	Strongly disagree
1	- Computers will help students improve their learning				
2	- Computers will improve the overall quality of education				
3	- Computers will help me improve my teaching				
4	- The computer is a fast and efficient means of getting information				
5	- Computer will help me to learn				
6	- Computer is responsible for many of the good things we enjoy				
7	- There are unlimited computer applications that have not even been thought of yet				
8	- Computer can eliminate a lot of tedious work for teachers				

No	Statement	Strongly Agree	Agree	Disagree	Strongly disagree
9	- Soon our classroom will be completely run by computers				
10	- Computers will not replace teachers				
11	- Computers make me uncomfortable because I do not understand them				
12	- I feel intimidated by computers				
13	- Computers are difficult to understand				
14	- Computers are frustrating to work with				
15	- Computers intimidate me because they seem complex				
16	- Only computer experts can use computers in teaching				
17	- New generation computers are user friendly				
18	- Teachers need a very long training period to become capable of using them in teaching				
19	- I feel comfortable when working with computers				
20	- Computers are easily operated and need no previous experience in computers				
21	- Computers are bringing education into a bright new era				
22	- Teaching and learning will be easier and faster with computers				
23	- Soon education will be controlled by computers				
24	- The use of computers will enhance our standard of teaching				

No	Statement	Strongly Agree	Agree	Disagree	Strongly disagree
25	- Teachers manage without computers, so computers are not really necessary				
26	- Computers are only useful in teaching difficult topics				
27	- Generally, it is better to teach without computers				
28	- Computers will enhance pupils' learning in all subjects				
29	- Computers will improve pupils' thinking				
30	- Computer will be beneficial only for the most able students				
31	- Computers will turn teachers into just another number				
32	- Computers will dehumanize teachers				
33	- The overuse of computers may be harmful and damaging to teachers				
34	- Students will become slaves to computers				
35	- Computers will lessen the importance of many jobs now done by teachers				
36	- Using computers will not improve education				
37	- It is preferable to teach using computers				
38	- Teaching with the aid of computers would make teaching easier				
39	- I look forward to a time when computers are widely used in teaching				
40	- The benefits of using computers outweigh, or at least, are equivalent to their cost				

Items 1 to 10 represent the Positive Computer Attitude Scale. All the items in this scale are from the scale used by Chen (1998) from which all the ten items are adopted. Items from 11 to 20 are the Feeling of Intimidation of Using Computer scale items. The current study adopted the existing four items from the same scale. The third set of items, from 21 to 30, shows the Usefulness of Computers scale, where the researcher imported the four items. Finally, the last 10 items constitute the Negative Computer Attitudes scale, of which six items were adopted from the Chen study.

4.5.2.1. Rating Responses

The total number of items for each subscale was 10 items. A four-point Likert scale was used rather than the five-point scale. This was due to the effect of the neutral or undecided score on the reliability of attitude measurements. As Bame and Dugger (1989) put it:

> *"When analysing the attitude scales, improved results were obtained if the "neutral" response was removed and counted as no response"* (p. 315).

Responses to the first three scales: the Positive Computer Attitude, Feeling of Intimidation of Using Computers and Usefulness of Computers, were given 1 to 4 rating where the high score was for favourable statements in the scale. This means that a high score on Feeling of Intimidation suggests low intimidation and vice versa. For the fourth scale, the Negative Computer Attitude Scale, a high score means high negative computer attitude and a low score means low negative attitude.

4.5.2.2. Translation into Arabic

The researcher translated the questionnaire into Arabic to make it suitable for teachers in the Arabic Language Institutes for non-Arabic Speakers.

This translated version was revised by a teacher in the College of Arabic Language at Umm Al-Qura University in Makkah Al-Mokarramah. After that, both Arabic and English versions were given to two bilingual teachers at the same university, to carry out back translation for each version separately. The translation appeared to retain the original English meaning of every statement.

The researcher then consulted two Arabic language professors to optimize the language used. Both of them agreed that it was clear and correct.

After that, an Arabic version of this questionnaire was produced for the piloting and validation process.

4.5.2.3. Validity of the Questionnaire

A very critical factor determining the quality of an instrument is its validity, which means the degree to which a scale measures what it is supposed to measure. Validity is all about the ability of the scale to fulfil its function. As Fox and Tobias (1969) put it, it is:

> *"[T]he extent to which the procedure actually accomplishes what it seeks to accomplish or measures what it seeks to measure"* (p.....)

The appropriateness of an instrument includes two major factors: its appropriateness for its particular aim and its desired sample. Hittleman and Simon (1992) insisted that researchers have to realize that:

> *"Instruments have validity when they are appropriate for a specific purpose and a particular population. To use an instrument with confidence, researchers must know the answers to 'Does the instrument measure what it is intended to measure at the time it is being used?' and 'Are the results generalisable to the intended target population?"* (p. 130).

Researchers recognise that there are several types of validity. The most commonly used types of validity in academic research in the field of education are face validity, content validity, concurrent validity, predictive validity, and construct validity. Each type of validity is tested by various methods.

Face validity

Face validity is the simplest way of validating an instrument and considered to be the least scientific type. Sometimes, the assessment of face validity is performed superficially by an untrained judge like a family member (Litwin, 1995). Face validity, also, sometimes confused with content validity. It is, according to Neuman (1994), performed in the form of:

> *"[A] judgment by [a] scientific community that the indicator really measures the construct"* (p. 131).

This type of validity has received criticism from distinguished researchers such as Oppenheim (1992) and Gall et al. (1996). Munby (1982), also, criticised the face validity as a measure of validity, claiming that the judges' verdict would only be acceptable if the measure was administered to a population having the same context for interpreting meaning as the judges'. On the other hand, another group of distinguished researchers found the face validity a useful measure of validity, especially if there is no other way to ensure validity or as an initial indication of relevance. Youngman (1994) believed that:

> *"Validity is typically assessed in terms of face validity, more often than not a euphemism for doing nothing. If any objective measure is available then it should be considered"* (p. 263).

Thus, applying the face validity would depend on the circumstances of the research and the feasibility of using this type or another type. Moreover, researchers should try to adopt more than one measure of validity, to get more confidence in their scales.

Content validity

Some researchers refer to content validity as a special type of face validity. Content validity is the measure of relevance between items and their scale or domain and whether or not this set of items represents adequately the content that the scale is intended to measure (Gall, et al, 1996). This is related to a major extent to having covering items for the tested domain. Thus, the number of items in a domain has to represent it adequately. This was one reason for adding several items to three of the four scales used in this current study.

Concurrent validity

Concurrent validity regards the correlation between the scale under investigation and another valid scale (Oppenheim, 1992). Neuman (1994) gave an example of how to have a concurrently valid scale by saying:

> *"[Y]ou create a new test to measure intelligence. For it to be concurrently valid, it should be highly associated with existing IQ tests (assuming the same definition of intelligence is used). This means that most people who score high on the old measure should also score high on the new one, and vice versa"* (p. 133).

Predictive validity

Predictive validity, as its name suggests, deals with prediction of a future event that is related to a current one. Oppenheim (1992) defined predictive validity as ability to "forecast" some future criterion.

Construct validity

Construct validity is a measure that investigates:

> *"[H]ow well the test links up with a set of theoretical assumptions about an abstract construct such as intelligence"* (Oppenheim, 1992).

According to Neuman (1994), construct validity:

> *"[A]ddresses the question: "If the measure is valid, do the various indicators operate in a consistent way?"* (p. 134).

The validity of the questionnaire in the current study was checked in two different ways. The first was the "content validity". Each statement in the questionnaire was carefully refined to address the appropriateness of words, technical terms, and clarity of statements as whole. Each statement was assigned to the most appropriate scale.

The other one was taking some experts' opinions or "face validity". Three teachers from the College of Education at Umm Al-Qura University constituted the judges panel. In the covering letter that was sent to the three experts, the researcher gave a clear idea about the questionnaire and its objectives. They were asked not to respond to items, but rather to rate the relevance of each item to its scale using 1,2,3, or 4, representing no relevance, low relevance, relevance, and high relevance respectively. The researcher also asked them to give their opinions about the clarity of the wording and its appropriateness for the context of Umm Al-Qura University. Their ratings approved the face validity of the four subscales, as none of the ratings was less than 3, which means there is relevance between the item and the subscale.

Another method of checking validity was interviewing some of the teachers in the Institute of the Arabic Language for non-Arabic Speakers. The researcher interviewed

three teachers in his institute and used several words from the items of the questionnaire in the interviews. This further suggests that the questionnaire was valid.

4.5.2.4. Piloting the Teachers' Computer Attitudes Scale

Piloting is very crucial to research instruments like questionnaires. It is believed to be a necessary and an integral part of any research (Youngman, 1994; Bell, 1993).

Pilot investigation could save efforts and funds if it is performed prior to the main field study (Oppenheim, 1992). He considered the time and money associated with piloting to be worthwhile. Hoinville and Jowell (1978) indicated that piloting is a cornerstone in successful questionnaire. As they put it:

> *"It is fortunate, perhaps, that the creation of a good questionnaire does not have to rely solely on perceptive research. At some stage in the design purposes, the questionnaire should be subjected to field test. Such pilot work is extremely useful in refining the wording, ordering, layout, filtering, and so on, and in helping to prune the questionnaire to a manageable length"* (p. 51).

To ensure that the questionnaire was suitable to be used with those particular respondents, it was piloted in the Institute of Arabic Language for non-Arabic Speakers at Umm Al-Qura University in Makkah Al-Mokarramah. Piloting aimed to find out any problems with the questionnaire, as well as the reliability of the four scales.

4.5.2.4.1. The Pilot Sample

The subjects in this pilot test were twenty teachers of Arabic and Islamic Studies chosen randomly from among the study population, i.e. teachers of Arabic and Islamic Studies to non-native speakers in the Language Institute of Umm Al-Qura University. The actual number of questionnaires distributed was 24. In deciding the number of participants in piloting, the researcher followed the advice given by Verma and Mallick (1999) as they stated that the sample group should be:

> *"a group similar to the sample for which it is destined. This need not to be large: a dozen or 20 is usually adequate"* (p. 120).

Sixteen of the participants in the pilot study were male while the other five were female. The male group had teachers of Arabic Language and of Islamic Studies. On the other hand, although the researcher distributed copies of the questionnaire to teachers of both subjects in the women's department, the female group consisted only of Arabic Language teachers. This situation was, practically, acceptable bearing in mind Youngman's (1979) comment that piloting is concerned with the questionnaire itself, rather than the sample.

The questionnaires were distributed to and collected from the male staff in person. The objective of personal collection was to get the maximum comments from the respondents. With regard to the female staff, communication by telephone served the same purpose. Many attempts were made by the researcher to get the four remaining copies of the questionnaire but he was told that the teachers had taken them home and did not bring them back.

The outcomes of the pilot study, in terms of evidence for the reliability of the instrument, and suggestions or comments on its wording, are presented below.

4.5.2.4.2. Reliability

Since, as mentioned earlier, research is concerned with systematic data gathering, this implies that instruments used should be valid and reliable. The term "reliability" refers to the degree of accuracy with which an instrument measures whatever it is designed to measure (Verma and Mallick, 1999). In an educational setting, for example, if a test is administered to a particular group of students, and then the same test is administered to the same group, there should be a level of correspondence between students' scores on

the two occasions (Moore, 1995). Kumar (1996) suggested a similar meaning of the reliability of a research instrument. He believed that if a research tool is consistent and stable, which in turn means predictable and accurate, it is considered reliable. The greater the degree of consistency and stability of an instrument, the greater is its reliability.

It is not necessary to have the same group tested twice to prove reliability. Sub-populations could serve the same task. As Neuman (1994) put it:

> *"[D]oes the indicator deliver the same answer when applied to different groups? An indicator has high representative reliability if it yields the same result for a construct when applied to different sub-populations"* (p. 126).

There are four basic methods of estimating the reliability of a research instrument: the test-retest, equivalent forms, test-retest with equivalent forms, and the internal consistency method (Gronlund, 1982, Neuman, 1994). The test-retest method, sometimes called the stability reliability, investigates the stability of scores when a test is applied at different times. The second type of reliability estimation, the equivalence reliability, checks the consistency of the scores if multiple indicators are used. The third type, a combination of test-retest and equivalent forms, considers the time period between occasions as well as different forms of the research instrument. On the other hand, the internal consistency method applies neither the time interval nor different forms or indicators. Instead, it examines the consistency internally over different parts of the test.

The current study applied the internal consistency method to estimate the reliability of the research instrument. This was done by calculating Cronbach's alpha. Cronbach (1990) explained what is meant by Alpha Coefficient thus:

> *"The usual observed score is a sum or average over items, trials, raters, or occasions or over combination of these. The tester analyzing a composite can array the scores on the parts, and examine their consistency. Several convenient formulas produce what statisticians know as an interclass correlation and testers know as an alpha coefficient"* (p. 202).

The Cronbach's Coefficient Alpha is used when items on a measure are not scored dichotomously. Lee (1980) explained:

> *"It is a general form of the K-R20 formula that can be used when items are not scored dichotomously. For example, some multiple choice test and easy tests include items that have several possible answers, each of which is given a different weight. In this case, Alpha is the appropriate method for computing reliability."*

The Alpha reliability coefficient could take values ranging from zero to one. Gall, et al. (1996) considered alpha score of 0.8 and greater to be acceptable for research in general. However, according to Moore (1995), the accepted value depends on the nature of the instrument. He noted that in published researches, test scores have reliability of 0.90 or more in cognitive tests and 0.80 for personality tests. On the other hand, he found attitude scales having reliability of 0.70 and lower.

Cronbach's alpha was used to estimate the reliability of each one of the four scales in the instrument. The Cronbach's alpha coefficients of reliability were between 0.79 and 0.91 for the four scales. The following tables present the results from SPSS:

Table 4.4 Reliability of the Positive Computer Attitude Scale

Number	Alpha if item deleted
Item #1	.6845
Item #2	.7287
Item #3	.7115
Item #4	.7275
Item #5	.7175
Item #6	.7270
Item #7	.7233
Item #8	.7449
Item #9	.7306
Item #10	.7938

Number of cases = 21, number of items = 10
Alpha = .7509.

Only one statement was omitted from the Positive Computer Attitude scale. This statement was " computers will not replace teachers". In fact, the researcher felt –with hindsight- that this statement should not have appeared in the scale from the beginning, as the response would not indicate any orientation of feelings about computers regardless of its effect on the reliability. In this case, deleting the tenth item, the reliability is estimated to be, alpha = 0.79.

Table 4.5 Reliability of the Intimidation Scale

	Alpha if item deleted
Item #11	.8430
Item #12	.8395
Item #13	.8439
Item #14	.8455
Item #15	.8498
Item #16	.8631
Item #17	.8910
Item #18	.8606
Item #19	.8798
Item #20	.8701

Number of cases = 21, number of items = 10.
Alpha = .8723.

In this scale, the Feeling of Intimidation of Using Computers, no changes were needed.

Table 4.6 Reliability of the Usefulness Scale

Number	Alpha if item deleted
Item #21	.8942
Item #22	.8988
Item #23	.9008
Item #24	.8905
Item #25	.8989
Item #26	.9079
Item #27	.8898
Item #28	.9066
Item #29	.9100
Item #30	.8988

Number of cases = 21, number of items = 10.
Alpha = .9090.

Also, no changes were necessary for the Usefulness of Computers scale.

Table 4.7 Reliability of the Negative Computer Attitude Scale

Number	Alpha if item deleted
Item #31	.8761
Item #32	.8831
Item #33	.8991
Item #34	.8807
Item #35	.8896
Item #36	.8767
Item #37	.8669
Item #38	.8804
Item #39	.8722
Item #40	.9105

Number of cases = 21, number of items = 10.
Alpha = .8947.

Again the researcher kept this, the Negative Computer Attitude, scale with no changes.

4.5.2.4.3. Wording of the Items

The researcher received the respondents' comments when he collected the questionnaire from them. The comment that was heard most frequently was, "We are not computer experts, and only computer experts would respond to this type of questionnaire". As a result, the researcher added a sentence to the covering page of the questionnaire, explaining that the teachers' opinions and views would play the most important role in this study, and not those of computer experts.

Oppenheim (1992) clarified this point as he said:

> *"Piloting can help us not only with the wording of questions but also with procedural matters such as the design of a letter of introduction (and from whom it should come)"* (p. 47).

Another version of the covering letter was produced for the female teachers' questionnaire. This is due the fact that in Arabic, different words and inflections are used in referring to males and females.

4.5.2.5. Administering the Final Version of the Questionnaire

The final version of the computer attitude questionnaire (Appendix 2) was distributed to the four Institutes of Arabic Language for non-Arabic Speakers at four different universities. Al-Imam University and King Saud University are both in Al-Riyadh city. The Islamic university is in Al-Madinah, while Umm Al-Qura University is in Makkah Al-Mokarramah.

At the last of those, the researcher distributed the questionnaire personally. For the other universities, copies of the questionnaires were sent to two friends of the researcher, one of whom lives in Al-Riyadh and the other one in Al-Madinah.

The researcher again collected the responses in person at Umm Al-Qura University while his friends collected them from the other three universities.

4.5.2.5.1. The Sample

The sample consisted of 148 teachers from four different universities. The following table shows their distribution.

Table 4.8 Distribution of Responses by University

University	Number of teachers
Umm Al-Qura University	49
The Islamic University	37
Imam Mohammad University	34
King Saud University	28

4.5.2.5.2. Statistical Tests for Analysis

The aim of this particular part of the current study is to investigate teachers' attitudes to computer and how attitudes vary by several demographic factors. Firstly, a descriptive analysis including their mean scores and standard deviations would reveal their attitude generally for the four scales. Secondly, there are several subgroups within the sample according to some characteristics obtained in the questionnaire such as their age, qualification, and owning a personal computer. To compare teachers' mean scores from different groups, t-test and ANOVA (Analysis of Variance) were applied. The t-test is applicable to compare mean scores if a researcher has no more than two groups. The ANOVA, on the other hand, is appropriate if there are more than two groups for mean scores comparison. However, sometimes neither the t-test nor the ANOVA is applicable, because the data do not satisfy the conditions for such tests. In such cases, the researcher has the option to select an equivalent non-parametric test. Thus, in such

cases, the Mann-Whitney and the Kruskal-Wallis tests were used instead of the t-test and the ANOVA respectively.

4.5.3. Senior Staff Interviews

Administrators, potentially, play an important role in promoting innovations in any educational setting. Interviews were therefore conducted with administrators at Umm Al-Qura University with the aim, primarily, of obtaining as clear a picture as possible of the university's plans with regard to introducing innovations. In addition, bearing in mind the qualitative approach adopted in the current study, the researcher anticipated that issues would be raised as a result of the interviews with teachers, which would need to be addressed by concerned administrators. Six administrators were approached by the researcher to be interviewed. Five of them agreed to participate, while the sixth person approached declined, since he had only recently been appointed as the Dean of the Arabic language Institute for non-Arabic Speakers and suggested that his deputy would be better able t answer questions. Two interviews were held in the institute building, with Dr Al-Qurashi and Dr Al-Thobaity, the deputy dean the director of the research and curriculum development unit respectively, in their offices. Dr Al-Thobaiti responded to questions regarding the activities his unit is supposed t perform, and how far it is accomplishing its mission. Moreover, the researcher tried to obtain Dr Al-Thobaiti's thoughts with regard to problems facing the unit, as well as how to make the unit more active and strengthen the link between the unit and the institute's teachers. This interview lasted for thirty minutes and the researcher used the same procedure of note taking as for the teacher interviews (see pp. 4-23). This interview is presented in Chapter 7 (7-3 to 7-5).

The second interview, which was with Dr Al Qurashi, aimed to find out the institute's policy in dealing with innovations in teaching and learning. he, then, proceeded to

answer questions about supporting innovations and who should take the initiative; the administration or the teaching staff. This interview lasted for twenty minutes.

The third interview was with the supervisor of the General Management for Information and Academic Development, Dr Sairafi. Questions put to him concerned the roles of this department and its relation with staff development training for both new and experienced teachers. he also gave his thoughts about the issue of the apparent gap between teachers and administration, raised by the researcher.

Dr Nassir Al-Saleh, the Vice Director of Umm Al-Qura University for Academic Affairs, is one of the distinguished figures in the university. he is a full professor in the College of Social Sciences. He worked as the dean of this college and the Dean of the Sciences. He worked as the dean of this college and the dean of the Scientific Research Institute. The question concerned the university teachers' responses to plans for development, what may influence their reactions, and curriculum-related issues. Then he answered questions about the differing perspectives of the two groups, administrators and teachers. Dr Al-Saleh, as the person who oversees the research centre's activities, gave his thoughts about the research centres and their possible role in activating development in teaching and learning, as well as serving as a link between teachers and administrators. In addition, he responded to the researcher's question with respect to staff development. This interview was the longest, as Dr Al-Saleh was generous enough to give the researcher more than 1½ hours of his office in the administration building. Details of this interview are presented in Chapter 7 (7-9 to 7-17).

The final interview was with the university rector, Dr Suhail Quddi. The researcher approached him to be interviewed in this study and he kindly agreed and arranged an appointment for the interview. The researcher supplied the rector with a copy of the questions. At the time of the interview, which took place in the rector's office and

lasted for thirty minutes, he talked about several issues related to the researcher's questions but, however, he asked the researcher if he could keep a copy of the questions to give answers in writing, as he claimed that he needed to be equipped with statistical data to give full answers. One month later the researcher received an eight-page facsimile message containing his responses. A copy of his answers is presented in Appendix 3.

4.6. Students and Computer Supported Co-operative Learning

In this section there will be a description of what was going on in that part of the research about students and their co-operative work around the computers. This description will include participants, the task, training to use the program, training to co-operate, grouping procedure, recording and observing events, and interviewing students. Also, there will be a brief indication of the software, which will be discussed in a later section.

4.6.1. The Participants

The students involved in this study were from the elementary level of the Arabic language institute for non-Arabic speakers in Umm Al-Qura University in Makkah Al-Mokarramah in the kingdom of Saudi Arabia. Those students represented a very diverse group from many nationalities as follows:

Table 4.9 Distribution of Student Sample by Nationality and Study Level

	Student	Nationality	Level
1	Aa	Zaier	Elementary
2	Bb	Tajkistan	Elementary
3	Cc	Gargistan	Elementary
4	Dd	USA	Elementary
5	Ee	Holland	Elementary
6	Ff	Malysia	Elementary
7	Gg	Cambodia	Elementary
8	Hh	Ethiopia	Elementary
9	Ii	Pakistan	Elementary
10	Jj	Pakistan	Elementary
11	Kk	Afganistan	Elementary
12	Ll	Daghistan	Elementary
13	Mm	France	Elementary
14	Nn	France	Elementary
15	Oo	Ghana	Elementary
16	Pp	USA	Elementary
17	Qq	USA	Elementary
18	Rr	Philippines	Elementary
19	Ss	Ghiana	Elementary
20	Tt	Ghana	Elementary
21	Uu	Burkina Faso	Elementary
22	Vv	China	Elementary

These students had studied with each other in the same class for almost one academic term, which means they were already acquainted to some extent, before being asked to work in groups for this study.

4.6.2. The Software

As mentioned later (in the section on developing this piece of software) there was no commercial or academic software that teaches Arabic language or Islamic studies and could serve the objective of this study. Hence, the researcher used self-developed software. This software aims to teach students the Pillars of the prayer and some basic Arabic vocabulary using multimedia features. Also it gives the students the opportunity to interact with the program by recording their voices and then hear the right word and compare it with what they recorded.

4.6.3. The Task

There were no questions students had to answer. Instead, they were asked to navigate through all the sets in the program. While navigating, the students were asked to stop at each screen and practise saying the relevant word. They were also asked to help each other in either correcting the words and explaining the meaning or operating the computer.

4.6.4. Training to use the Computer and the Software

Before the start of the sessions, the researcher trained one of the students in this group on how to run the computer and the software. This student had no previous computer experience. After the student had mastered using the program, he was filmed on video camera. The film then was presented to all of the students and the researcher answered their questions about the program.

After that, every individual student had the chance to practise the software with the researcher's follow-up. The training continued for about two hours until students were satisfied with their performance in running the program.

4.6.5. Training in Co-operation

At the beginning, the researcher talked to the students about co-operation and explained the importance of this concept in the Islamic culture. This included reciting of Quranic verses and the prophet's sayings and explaining their meaning. After that, the researcher divided the students into groups of 4-5 members and played a game called "Who am I?" In this game the researcher played the role of the mystery person and asked each member of the group to ask him three questions, without negotiating with his group members, while the other groups were watching. Then the researcher asked them to play that game again, but this time to ask questions only after discussing with their group members. After the second round, which was faster, all students commented on how they got the right answer faster by helping each other. This is the particular message, which was the aim of this game.

4.6.6. Grouping the Students

Since students were from very diverse backgrounds, the researcher was concerned about having students from the same nationality or speaking the same language. This was the only condition in grouping. The students selected their group members without interference from the researcher, other than setting that condition. All groups except one consisted of three members.

4.6.7. Recording the Co-operative Work

The researcher had decided before the research commenced to use a video camera to record students' interactions. However, after practising recording in the field the researcher faced many practical difficulties. The room was not prepared for such use and sounds from one group were interrupted by those from other groups, which forced the researcher to take another alternative. For the students' verbal interactions, an audio

recorder was used, while paper and pencil were used to record observations of students' behaviours. The tape recorder was placed next to each group.

4.6.8. Observations

The researcher used an open-ended observation to observe any remarkable events that took place during the co-operative learning sessions. This aimed to see how students got together in groups as well as their group processing. Also, the researcher tried to notice any signs of relationships being promoted through the period of the sessions. The open-ended observation gave the researcher the opportunity to catch any relevant events emerging through co-operative sessions.

4.6.9. Interviewing Students after the Co-operative Work

The researcher conducted interviews with students to investigate several aspects of their co-operative session and to get a clear and credible view of the observed events, which will validate the observation findings. The questions were about their co-operative experience, their feelings of working together, grouping aspects, and whether or not they would prefer their ordinary classroom to be a co-operative classroom.

These interviews took place after completion of the computer supported co-operative sessions, in the researcher's office. Each student was interviewed individually. The duration of each interview was 20-30 minutes. the researcher took notes to record the interview data. a copy of the interview schedule is shown in Appendix 4.

4.6.10. Transcription of Records

The researcher transcribed the tape recordings. A colleague was also asked to transcribe the recordings, and the two versions compared to ensure accuracy.

The researcher classified the students' interactions into two categories: off-task and on-task talks. Then, the on-task talks were divided into three subcategories: cognitive oriented, social oriented, and group process talks.

Students' interactions were coded and put in the appropriate category. In order to check the accuracy of coding procedure, inter-rated reliability was checked. The researcher asked a friend, a postgraduate student in psychology, to be involved. Firstly, the researcher explained the categorization procedure to his friend. Then, the researcher asked him to go through the transcript, code the interactions and assign each to the most appropriate class. Almost identical tables came out from both raters.

4.7. Software Development

There was no intention at the beginning, of reinventing the wheel. However, the researcher did not find any program designed to teach Arabic language or Islamic studies for non-Arabic speakers. This made it necessary to develop a programme that teaches Arabic language for non speakers, and some Islamic concepts.

4.7.1. The Development Process

Developing a piece of software requires a team approach as an essential factor to guarantee its quality. A development team should include content experts, graphic designer, programmer, and project manager (Philips, 1997; Canale and Wills,1993). However, the researcher found difficulties in establishing such a team because he was not funded by any means in respect to developing software. However, he had sufficient expertise to carry out the task himself.

4.7.2. The Content

To overcome the problem of absence of a content expert, the researcher followed some steps that helped him to complete the job. At the beginning the researcher had to decide on the targeted group, who are learners at the elementary level of Arabic language. The researcher referred to two major references; the first one was the Makkah Dictionary of Common Vocabulary (1982) and the other one was the Basic Text-Book used to teach Arabic language to non-Arabic Speakers (Institute of Arabic Language,1982). This was in order to select the vocabulary, which would be included in the program. That vocabulary was to be joined to illustrations showing how each word is spoken and how it is written.

These vocabularies were shown to three teachers who specialise in teaching Arabic language for non-Arabic speakers (one professor, two Master degree holders) in the Institution of the Arabic Language for non-Arabic Speakers in Umm Al-Qura University. Those referees approved almost all the vocabulary and thought it suitable for the target group. For Islamic studies, the focus was on the prayer. Again, this idea of presenting the Prayer's Pillars lesson was presented to some of the teachers (two Islamic Studies teachers from the institute and a professor of Islamic Studies from the College of Shari'ah and Islamic Studies at Umm Al-Qura University), who approved it and thought it suitable for the same group.

4.7.3. Programming

The researcher searched to find a programmer who had a good background in Arabic Interface applications to be able to handle the Arabic content in both the text and the audio aspects. All expenses were paid by the researcher himself. The researcher had to make visits to Saudi Arabia to meet both the content judges and the programmer.

After deciding the content, the work started in preparing photographs and illustrations of the selected vocabulary. Some were available in some books and free references and others were taken specially for this project. These materials were delivered to a specialist in computer programming to construct the program. The researcher then made the audio for the program.

The program starts with welcoming words and students hear a greeting, asking them to join him through the program. By clicking the mouse on the screen, nine small screens appear. Each one presents a set. The sets are as follows: the mosque, the school, vegetables and fruits, the airport, the zoo, the house, synonyms, the Holy Quran, and the exit screen. Once the student clicks any of these nine screens, another screen appears for the selected set. In this later screen, there are five icons plus another icon to return to the main screen in the upper left corner.

4.7.4. Evaluation

The evaluation aspect is a crucial aspect in developing any piece of educational software (Reiser and Kegelmann, 1994; Sanders and Ayaye, 1997; Philips, 1997; Pham, 1998). Its importance with regard to the software developed for this study was all the greater because of the absence of a developing team, which increased the researcher's responsibility to ensure that the developed piece of software was an acceptable one.

4.7.4.1. Types of Evaluation

There are several types of evaluation, varying according the aim of the evaluation. The two major types of evaluation are the formative and the summative.

Formative evaluation is used when the evaluation process takes place throughout the developing process. The developer gets feedback from users of the software in order to

make modifications. The outcomes from informative evaluation should appear in an improved quality, rather than paper reports. The researcher, in the current study, used this type of evaluation from the beginning of the development project. Some changes were made in regard to the content due to advice received from the expert judges. Other changes took place with regard to navigational aspects after testing the software with two non-Arabic and two Arabic students studying at the University of Hull. Also, the process of some commands was changed.

Summative evaluation, on the other hand, is selection of a piece of software or testing it according to some criteria. The result of such an evaluation is usually a report. In addition to the formative one, the researcher used a summative approach to investigate the quality of the self developed piece of software. There was a need to set predefined criteria for the quality of the software. The aim of selecting a set of predefined criteria is to ensure that a piece of software satisfies the requirements of a piece of educational software (Pham, 1998).

Barker and King (l993) carried out a study to identify "hallmarks of quality" that characterise good learning products. They listed l2 basic categories drawn from the literature to be explored and to determine which features are the most important in determining the quality of a piece of educational software. The l2 facets of the evaluation are engagement, interactivity, tailorability, appropriateness of multimedia, mode and style of interaction, quality of interaction, quality of end user interfaces, learning style, monitoring and assessment techniques, built in intelligence, adequacy of ancillary learning supporting tools and suitability for single user/group/distributed use. They produced a checklist in two versions, one for experts and the other, simpler one, for novice users. They evaluated 43 products used in education. Their results provide

indications as to the features that characterise the quality of a piece of educational software.

The first feature that appeared to be on the top of the list is the ***end user interface.*** The end user interface is a very important, because it affects how the users perceive the product, what they can do with it and how it engages them.

Another important facet was ***engagement.*** They found that over 50% of the exceptionally good pieces of software were rated highly in respect of the engagement category. Some of the evaluators in this study believed that using audio and motion video would make the product more engaging.

Interactivity appeared to be another important dimension of quality. They found that the products that actively involved users were rated much higher than products that exhibited low interactivity and which just presented information to users. Also, the ***tailorability*** was found to be another important feature of a quality software.

Those are the main features among the l2 mentioned before. Hence, these factors were used in the current study to evaluate the developed software. In addition to these four factors, the appropriateness of multimedia mix were used.

Another factor to be investigated was in relation to technical aspects. The importance of ensuring the technical quality of a piece of software appears in debugging, since users will be not satisfied if the software is associated with technical problems (Squires and McDougall, 1994).

To evaluate the technical aspects of the software, the researcher consulted an expert in computer programming. He approved the work done and suggested proceeding without any changes. After that, the researcher asked students at the University of Hull (Arabic

and non-Arabic speakers) to experiment with working through the software since the ultimate test of a piece of software is the end user. They were asked to report any problems they faced while navigating through. None reported any problems, which led the researcher to proceed to other aspects of evaluation.

Two checklist versions including the selected criteria for evaluation (adopted from Barker and King, 1993) were distributed to teachers and students at the Institute of Arabic Language for non-Arabic Speakers. At the end of the checklist, respondents were asked to give their comments and overall rating of the piece of software. Responses suggested that the developed software was suitable to be used as the overall rating was above 8 out of 10. Respondents believed that this piece of software met the predefined criteria they were asked to check against. Interactivity, navigation, and engagement were highly rated. Some suggestions were made with regard to some photographs and were taken into account by the researcher.

Overall, the developed software seemed to be suitable to be used with students from the Institute of Arabic Language for non-Arabic Speakers.

Summary

In the light of the research aims and theoretical considerations related to the relative merits of qualitative and quantitative approaches, the researcher made use of triangulation, both of perspectives (teachers, administrators, students) and of methods (interviews, questionnaire, observation).

Semi-structured interviews on experience and perceptions of co-operative learning were carried out out of 22 male and 13 female teachers. In the cases of the later, this was

done by means of a trained female assistant, or by telephone, in order to overcome the cultural restraints in Saudi Arabia.

The questionnaire, used to explore teachers' attitudes to computer, as an educational tool, was adopted from an instrument of Nickell and Pinto (1986), subsequently expanded by Chen (1997). Four dimensions: Positive Attitudes, Feeling of Intimidation, Usefulness of Computers and Negative Attitudes, were measured using a 4-point Likert scale. Piloting revealed acceptable levels of reliability for all scales. The questionnaire was subsequently administered to 148 teachers from four universities.

Observations were carried out of students from the Institute of Arabic Language for non-Arabic Speakers in Umm Al-Qura University, in Makkah engaged in computer supported co-operative learning tasks. Software was specially developed for this purpose by the researcher.

The outcomes of these investigations are reported in the next four chapters, beginning in chapter five with the findings from the questionnaire.

CHAPTER FIVE

FINDINGS OF THE QUESTIONNAIRE DATA

FINDINGS OF THE QUESTIONNAIRE DATA

Introduction

This chapter is the first of four presenting the research findings. It presents the findings of the computer attitudes questionnaire carried out with teachers of four Arabic Language Institutes for non-Arabic speakers in four different Saudi universities: Umm Al-Qura, The Islamic, Imam Mohammad bin Saud, and King Saud University. Teacher interviews, interviews with administrators, and the outcomes of the co-operative learning experiment with students are reported in Chapters 6, 7 and 8 respectively. The four sets of findings are integrated in the discussion in Chapter 9.

The researcher used the Statistical Package for the Social Sciences (SPSS) for analysis. The analysis begins with a description of the characteristics of the population, using frequency and percentages. There follows an analysis of relationships between respondents' personal characteristics (e.g. gender, age, qualification, curriculum area, computer ownership, and computer training) on scores in the four scales. For this purpose, t-test and ANOVA were used. T-test can appropriately be used when the data are in the form of scores from an interval or ratio scale, scores are normally distributed, and standard deviations are comparable. However, the robustness of the t-test is such that modest departures from the later two conditions can be tolerated, if the F ratio is not significant. In cases where the F ratio was significant, non-parametric tests, the Mann-Whitney and Kruskal-Wallis tests, were used.

5.1. Response Rate

The following table gives the response rates from the four universities participating in the current study:

Table 5.1: Questionnaire Response Rate

University	Distributed	Returned	Valid	% of valid
Umm Al-Qura	49	49	49	100
Islamic	49	37	36	73.47
Imam Mohammad	36	25	24	66.67
King Saud	34	15	15	44.12
Total	168	126	124	73.81

It was expected to get a high response rate at Umm Al-Qura University, but not 100 percent. However, throughout the field work period, the researcher tried to make good contacts with secretaries in both male and female departments, which helped greatly in achieving this high rate. This reflects the importance of personal relationships in the Saudi context. The researcher has friends in the Islamic University and Imam University, who distributed the questionnaires without the normal required paper work. The table shows another two high response rates (73.47%, 66.67% respectively). The only university that required the researcher to go through the bureaucratic process was King Saud University in which the researcher does not have personal connections. Although the response rate was relatively low (44.12%), there is an indication that the respondents seemed to be computer enthusiasts as they constituted the highest percentage of computer owners (see Table 5.2).

5.2. Characteristics of the Population

Table 2 shows the distribution of the sample for each university, according to age, curriculum area, qualification, computer ownership, and attending training on computers. Gender is added to these aspects only in the case of Umm Al-Qura University since it is the only one with a female department for non-Arabic speakers.

The sample from each university is discussed in turn, below. Following the presentation of group data, the data for all four groups are summarised in one table.

Table 5.2: Sample characteristics by university

Description	Number of teachers				Percentage			
	UQU	IU	IMU	KSU	UAU	IU	IMU	KSU
Gender:								
Male	29	36	24	15	59.2	100	100	100
Female:	20	0	0	0	40.8	0	0	0
Curriculum area:								
Arabic								
Islamic	33	7	11	13	67.3	19.4	45.8	86.7
Other	12	26	9	0	24.5	72.2	37.5	0
	4	3	4	2	8.2	8.3	16.7	13.3
Age:								
-30	1	0	3	0	2	0	12.5	0
31-40	19	24	13	1	38.8	66.7	54.2	6.7
41-50	19	11	7	6	38.8	30.5	29.2	40.0
51-60	10	1	1	8	20.4	2.8	4.2	53.3
Qualification:								
Bachelors	8	29	7	1	16.3	80.6	29.2	6.7
Masters	23	7	9	10	46.9	19.4	37.5	66.7
PhD	18	0	8	4	36.7	0	33.3	26.7
Computer ownership:								
Yes	21	9	12	11	42.9	25.0	50	73.3
No	28	27	12	4	57.1	75.0	50	26.7
Computer training:								
Yes	22	18	10	5	44.9	50	41.7	33.3
No	27	18	14	10	55.1	50	58.3	66.7

Key:
UQU = Umm Al-Qura University
IU = Islamic University
IMU = Imam Mohammad B✚n Saud University
KSU = King Saud University

5.2.1. Umm Al-Qura University

With regard to gender, Table 5.2 shows that only Umm Al-Qura University has female teachers. At this university, female teachers represented about two fifths (40.8%) of the total number of teachers. On the other hand, the other three universities do not have female sections for teaching Arabic for foreigners.

The ages of participants were subdivided into four groups. The first group consisted of teachers who are less than 30 years old. At UQU there is only one female teacher aged less than or equal to thirty years (less than 2% of teachers) and no male teachers were found in this category. The second group of teachers aged between 31 and 40 years consisted of 19 teachers (38.8%), and the same number of teachers was found in the third group between 41 and 50 years. Ten teachers (20.4%) were aged between 51 and 60 years.

The third variable considered was the curriculum area. Arabic languages teachers were in the majority, with 33 teachers (67.3%). The second group was the Islamic studies teachers, as there were 12 teachers, representing about a quarter (24.5%) of teachers in this institute. Teachers of educational subjects were least represented, as there were only four teachers (8.2%).

As regards qualification, Masters degree holders were the largest group. There were 23 teachers (46.9%) teachers in this category. Second came PhD holders with 18 teachers (36.7%). Only eight teachers (16.3%) were qualified only to first-degree level.

Another factor under investigation was computer ownership by teachers. Twenty-one teachers (43.9%) had their own personal computers, while the other 29 teachers (57.1%) did not.

Finally, 22 teachers (44.9%) had attended a computer training programme, while the other teachers (55.1%) had not.

5.2.2. The Islamic University

All 36 participants were male teachers, and none were less than 30 years old. The majority (24 teachers or 66.7%) were between 31 and 40 years old. Eleven teachers (30.5%) were in the range of 31 to 49 years old. One teacher only (2.8%) had passed the age of fifty years.

Islamic studies teachers dominated the curriculum area, as they constituted 72.2% or 26 teachers. Arabic language teachers came in the second place with 7 teachers (19.4%). Three teachers (8.3%) represented other curriculum areas.

As regards qualification, only two categories were present: Bachelors and Masters degrees. Teachers holding the Bachelor degree constituted 80.6% or 29 teachers, while a Masters had been attained by 19.4% or 7 teachers.

Only 9 teachers (25.0%) owned a personal computer; the other three quarters (27 teachers) did not.

Teachers who had attended computer training programmes were equal in number to those who had not; 18 in each case.

5.2.3. The Imam Mohammad bin Saud University

Twenty-four teachers from this university participated in this study. Three of these teachers (12.5%) were 30 years old or younger, while the majority of teachers (13 teachers or 66.7%) were between 31 and 40 years old. Seven teachers (30.5%) were in the third category between 41 and 50, and only one teacher was more than 50 years old.

Arabic language teachers were in the majority as regards curriculum area. They constituted 45.8% or 11 teachers. Another nine teachers (37.5%) were Islamic studies teachers. The remaining four teachers (16.7%) were educationalists.

There were 9 teachers (37.5%) holding a Masters degree. Another eight teachers (33.3%) were PhD holders. The last seven teachers (29.2%) had Bachelors' degrees.

The sample was equally divided between those who did and did not own a personal computer. Only two fifths of teacher at this university had attended a computer training programme.

5.2.4. King Saud University

Fifteen teachers from King Saud University participated in this study. No teachers were less than 30 years old, and only one teacher was between 31 and 40 years old. The majority of teachers (53.3% or 8 teachers) were above 50 years old. The other six teachers (40.0%) ranged between 41 and 50 years old.

No Islamic studies teachers appeared under the category of the curriculum area. The overwhelming majority were the Arabic language teachers, who constituted 86.7% or 13 teachers. The remaining two teachers (13.3%) were in other curriculum areas.

Only one teacher (6.7%) had a Bachelor degree while the majority (66.7% or 10 teachers) held a Masters degree. The remaining four teachers (26.7%) were PhD holders. Eleven teachers (73.3%) owned personal computers. One third of teachers had attended a computer training programme. Although more than half of the teachers were more than 50 years old, three quarters of this institute's teachers owned a computer. This might indicate that the respondents from this university were computer enthusiasts, while other teachers did not respond.

Summary of the Four Groups

Comparing the sample in the four institutions, it can be seen that the question of gender was applicable only in Umm Al-Qura University, as the other universities had only male teachers. As regards age, the teachers at King Saud University were the oldest. More than half of them being aged over 50, followed by Umm AlQura. The youngest staff were in the Imam Mohammad University, where two thirds of staff were under 40 years of age. Arabic teachers were in the majority in three universities, the exception being the Islamic University, where Islamic Studies predominated. A quarter of the sample overall had Ph.D degrees; a Master degree was the most frequently found qualification level in the sample overall and in three of the universities individually. In the Islamic University, however, staff were less highly qualified; the Bachelor degree was the most frequently reported qualification.

Table 5.3 presents the characteristics of the sample as a whole.

Table 5.3: Summary of sample characteristics for four groups combined

Description	Number of teachers	Percentage
Gender:		
Male	104	83.9
Female	20	16.1
Curriculum area:		
Arabic Language	64	51.6
Islamic Studies	47	37.9
Others	13	10.5
Teaching experience:		
<=10 years		
11-20 years		
>= 20 years		
Qualification:		
Bachelors	45	36.3
Masters	49	39.5
PhD	30	24.2
Computer ownership:		
Yes	53	42.7
No	71	57.3
Computer training:		
Yes	55	44.4
No	69	56.6

5.3. Analysis of Responses to Attitude Scales

The four scales used in this study were Computer Positive Attitudes (sub1), Feelings of Intimidation of Using Computers (sub2), Usefulness of Computer (sub3), and Computer Negative Attitudes to Computers (sub4). Analysis of responses to these four subscales and tests of hypotheses will be presented below (additional calculations can be found in Appendix 5).

5.3.1 Teachers' Responses to the Four Attitude Scales

The following table describes teachers' responses to the four attitude scales.

Table 5.4: Descriptive Statistics of teachers' responses to the four scales

	N	Minimum	Maximum	Mean	Std. Deviation
Positive Attitude	124	20.00	74.00	29.5484	5.3486
Intimidation regarding using computers	124	17.00	37.00	27.6210	4.9888
Opinions on computer usefulness	124	13.00	43.00	27.7661	5.3997
Negative attitude to computers	124	10.00	38.00	20.6210	5.3292
Valid N (listwise)	124				

Table 5.4 shows that the teachers, generally, had positive attitudes toward computers. For the Positive Computer Attitude, Feeling of Intimidation of using computer, Usefulness of computers, means were 29.54, 27.62 and 27.76 respectively. On the other hand, teachers had, in general, less negative attitudes toward computers, since the mean of the Negative Computer Attitudes was 20.62.

Analysis of factors affecting teachers' attitudes to computers will follow in the next sections.

5.3.2 Gender

Gender and Computer Positive Attitude (sub1)

Table 5.5, below, shows the scores of male (group 1) and female (group 2) teachers on the Computer Positive Attitude scale.

Table 5.5: Group Statistics : Positive Attitude by Gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
SUB1	1.00	104	29.9135	5.4987	.5392
	2.00	20	27.6500	4.0946	.9156

The following hypotheses were tested:

Ho: There is no significant difference between mean scores of male and female teachers on the computer positive attitude scale.

Ha: There is significant difference between mean scores of male and female teachers on the computer positive attitude scale.

The group statistics in the table show that male teachers scored a higher mean than female teachers. To see whether this difference was significant, the t-test was appropriate in this case since its conditions were satisfied (comparable means and standard deviations) and the Levene's Test for Equality of Variances revealed no significance ($0.900 > p = 0.05$).

The result is: $t = 1.748$, $df = 122$, $p = 0.083 > 0.05$.

This means that it is not possible to reject the null hypothesis. Consequently it can be said that there is no significant difference in the mean scores between male and female teachers on the Computer Positive Attitude scale.

Gender and Feeling of Intimidation of Using Computer (sub2)

Table 5.6: Group Statistics : Intimidation by Gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
SUB2	1.00	104	27.9904	4.9805	.4884
	2.00	20	25.7000	4.6915	1.0491

The hypotheses tested were:

Ho: There is no significant difference between mean scores of male and female teachers on the Feeling of Intimidation of Using Computer scale.

Ha: There is a significant difference between mean scores of male and female teachers on the Feeling of Intimidation of Using Computer scale.

The group statistics, again, show that male teachers scored a larger mean than their female colleagues. However, this difference in means is not statistically significant as the SPSS output gives:

$t = 1.900$, $df = 122$, $p = 0.06 > 0.05$.

Gender and Usefulness of Computers (sub3)

The t-test's conditions were not satisfied in this case, since the standard deviations were not comparable (4.7337, and 8.0882 for male and female teachers respectively) and the Levene's test for Equality of Variances gave a significant F ($0.001 < p = 0.05$). In such a case, an equivalent non-parametric test should be used. The test used here was the Mann-Whitney test.

The hypotheses were:

Ho: There is no significant difference between mean scores of male and female teachers on the Usefulness of Computers scale.

Ha: There is a significant difference between mean scores of male and female teachers on the Usefulness of Computers scale.

The result of the Mann-Whitney test suggests that the Ho should be accepted and there is no significant difference between male and female teachers' mean scores on the Usefulness of Computers scale.

Gender and Computer Negative Attitude (sub4)

Again, the SPSS output showed that the Levene's test for Equality Variances had a significant value ($0.008 < p = 0.05$). Thus the Mann-Whitney test was used to test the following null hypothesis:

Ho: There is no significant difference between mean scores of male and female teachers on the Computer Negative Attitude scale.

Ha: There is a significant difference between mean scores of male and female teachers on the Computer Negative Attitude scale.

The results of this test support rejecting the null hypothesis and accepting the alternative. It can therefore be said that there is a significant difference between male and female teachers' means on the Negative Attitudes scale, with women having more negative attitudes to computers than men.

5.3.3. Age

Age and Computer Positive Attitude (sub1)

Data for scores on the Positive Attitude scale, by age-group are shown in the following table.

Table 5.7: Group Statistics for Positive Attitude, by Age

SUB1

	N	Mean	Std. Deviation
1.00	4	32.0000	2.1602
2.00	57	30.4912	6.8325
3.00	43	28.4651	3.6276
4.00	20	28.7000	3.2298
Total	124	29.5484	5.3486

(1= up to 30, 2= 31-40, 3= 41-50, and 4= 51-60)

The Test of Homogeneity of Variances suggested the appropriateness of using ANOVA to analyse the hypothesis.

Ho: There is no significant difference in the mean score of Positive Attitude to Computers between the four age groups.

Ha: There is a significant difference in the mean score of Positive Attitude to Computers between the four age groups.

$F(3, 120) = 1.652$; $p = 0.181 > 0.05$.

This means that there is no significant difference between the four age groups in the mean score of sub 1. Hence, the Ho is accepted.

Although the SPSS shows no significant difference, the descriptive results show that the mean score decreased as age increases. The means plot shows this decline.

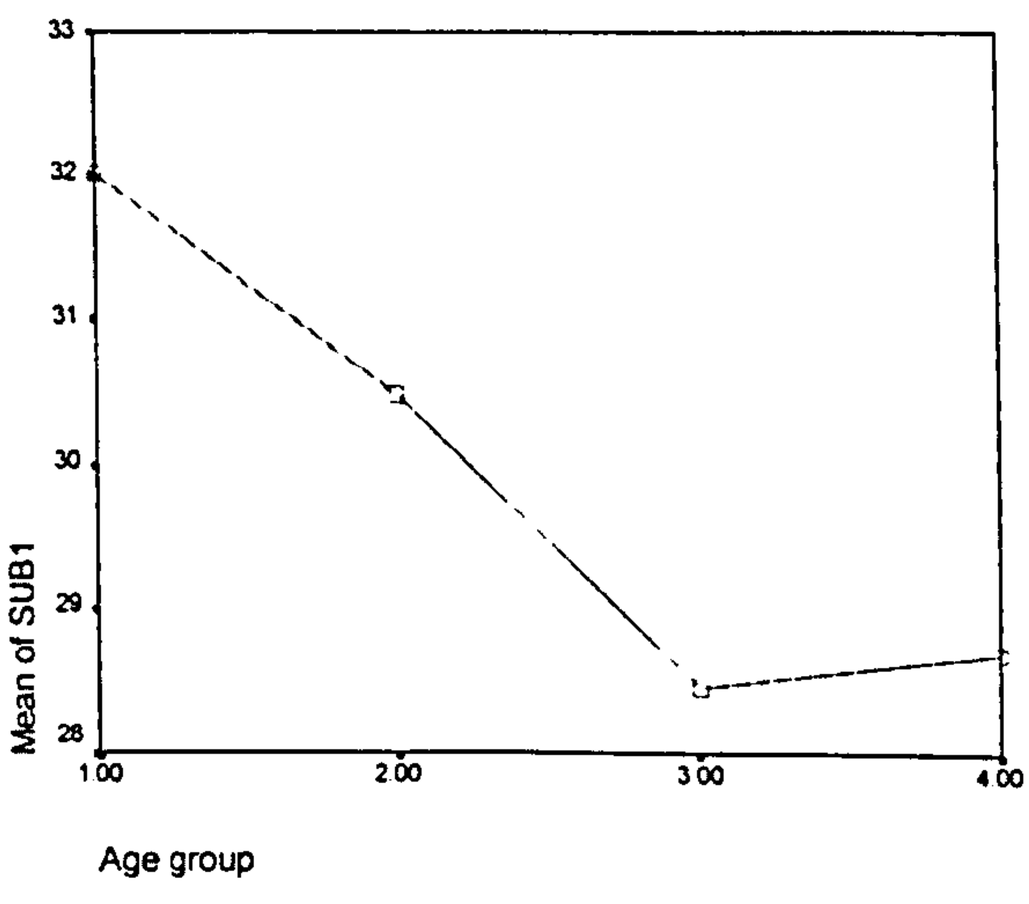


Figure 5.1: Plot of mean scores for Positive Attitude by Age Group

Age and Feeling of Intimidation of Using Computers (sub2)

The data on perceptions of Intimidation in relation to age, are shown below.

Table 5.8: Group Statistics for Intimidation, by Age

SUB2

	N	Mean	Std. Deviation	Std. Error
1.00	4	32.5000	5.4467	2.7234
2.00	57	27.7544	5.1070	.6764
3.00	43	27.3721	4.9426	.7537
4.00	20	26.8000	4.4319	.9910
Total	124	27.6210	4.9888	.4480

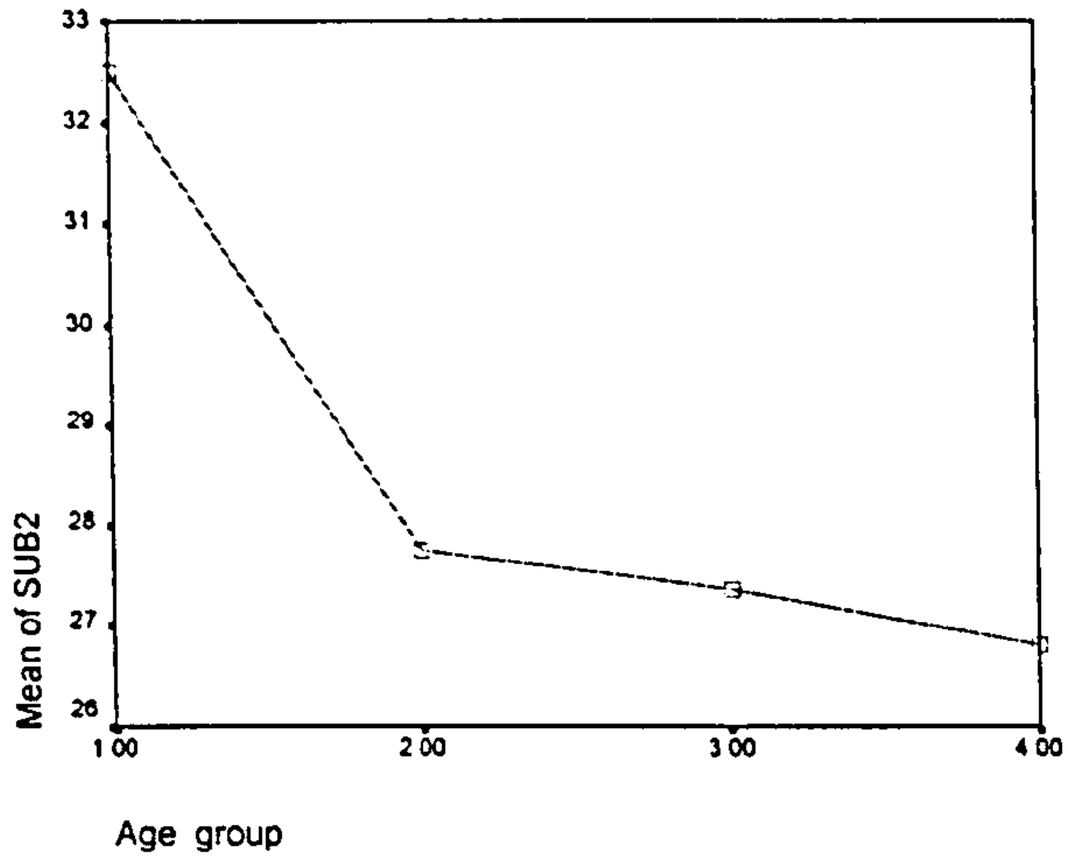
Ho: There is no significant difference in the mean score of Feeling of Intimidation of Using Computers scale between the four age groups.

Ha: There is a significant difference in the mean score of sub2 between the four age groups.

$F(3,120) = 1.524$; $p = 0.212 > 0.05$.

This also means that there is no statistically significant difference between the four age groups in the mean score of the Feeling of Intimidation scale. However, the means plot shows, clearly, that there is an increased feeling of intimidation with increased age.

Figure 5.2: plot of Mean Scores for Intimidation, by Age Group



Age and Usefulness of Computers (sub3)

The data for responses on the Usefulness of computers in relation to age are shown below.

Table 5.9: Group Statistics for Usefulness, by Age

SUB3

	N	Mean	Std. Deviation	Std. Error
1.00	4	31.7500	3.5000	1.7500
2.00	57	28.3333	4.8526	.6427
3.00	43	27.3023	5.9982	.9147
4.00	20	26.3500	5.5656	1.2445
Total	124	27.7661	5.3997	.4849

The hypotheses tested are:

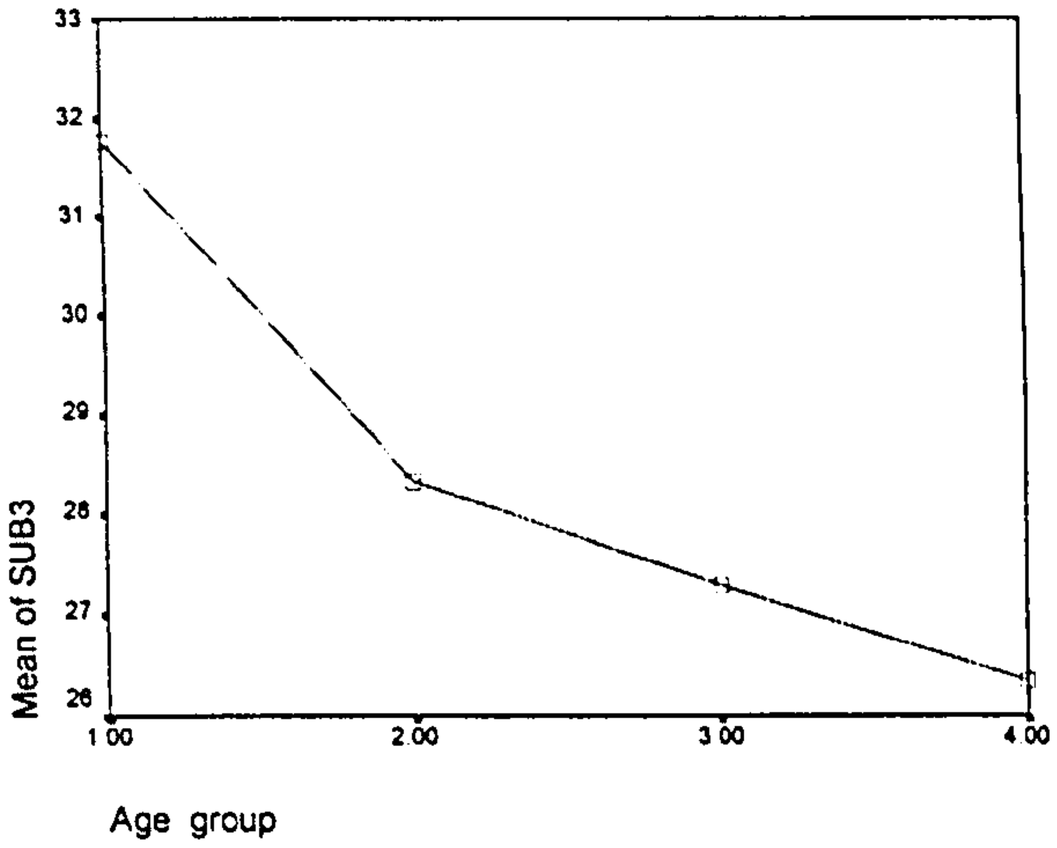
Ho: There is no significant difference in the mean score of the Usefulness of Computers scale between the four age groups.

Ha: There is a significant difference in the mean score of the Usefulness of Computers scale between the four age groups.

$F(3,120) = 1.519$; $p = 0.213 > 0.05$.

The SPSS output shows no significant difference in the mean scores on the Usefulness scale and suggests accepting the Ho. The means plot, however, shows the same pattern noticed in relation to Positive Attitude and Intimidation.

Figure 5.3: plot of Mean Scores for Intimidation, by Age Group



Age and Negative Computer Attitudes (Sub4)

The data on Negative Attitude scores in relation to age are presented below.

Table 5.10: Group statistics for Negative Attitudes, by Age

SUB4

	N	Mean	Std. Deviation	Std. Error
1.00	4	16.2500	1.7078	.8539
2.00	57	19.5965	4.8176	.6381
3.00	43	21.5581	6.0800	.9272
4.00	20	22.4000	4.5584	1.0193
Total	124	20.6210	5.3292	.4786

The hypotheses are:

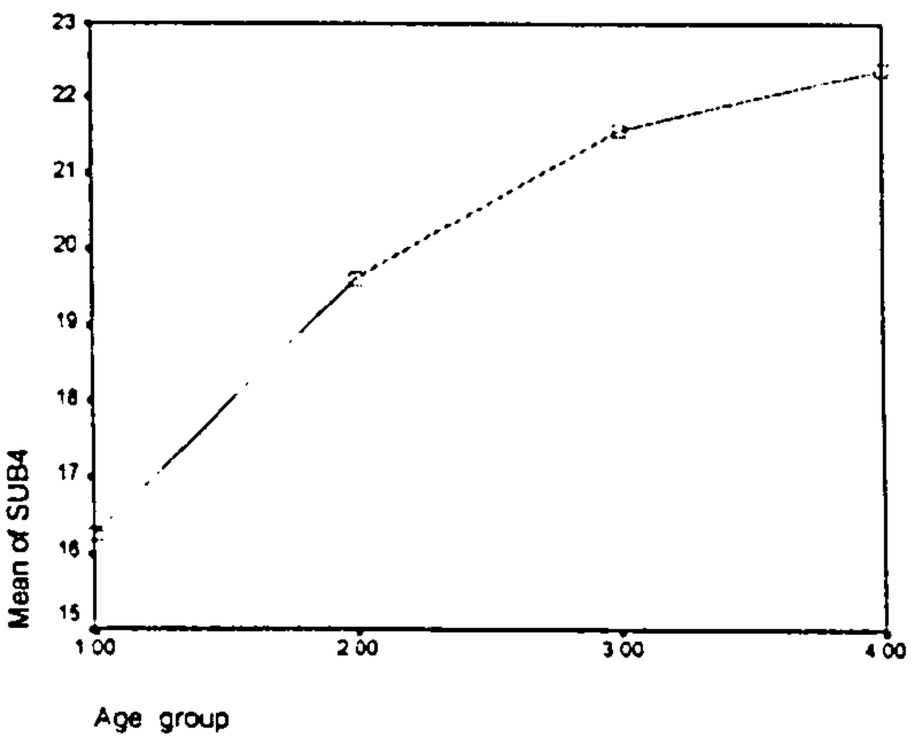
Ho: There is no significant difference in the mean score of the Negative Computer Attitudes scale between the four age groups.

Ha: There is a significant difference in the mean score of the Negative Computer Attitudes scale between the four age groups.

$F(3,120) = 2.915$; $p = 0.037 < 0.05$.

The result of ANOVA reveals that there is a significant difference between the age groups in the Negative Attitude scale. The data were entered in the SPSS with a score of 4 representing the highest negative attitude, and 1 for the lowest. Thus, the mean plot illustrates that the negative attitude to computers increases with age.

Figure 5.4: Plot of Mean Scores for Negative Computer Attitude, by Age



On the other hand, investigating the oldest group, King Saud University teachers, does not yield the same conclusion. Here, the Kruskal-Wallis test was used instead of a parametric test, because of the disparity in the numbers of respondents in the various age groups. The outcome was as follows.

Chi-square (from Kruskal-Wallis test) = 3.03, df = 2, $p = 0.22 > 0.05$.

This result reveals that there is no significant difference between the three age groups at King Saud University on the Negative Computer Attitude scale. This would be another indicator (see p. 5 of this chapter) of the computer enthusiasm of this group of teachers (King Saud University teachers).

5.3.4 Teaching Experience

Teaching Experience and Positive Computer Attitudes (Sub1)

The data on Positive Attitude scores for the four teaching experience groups are presented below.

Table 5.11: Group Statistics for Positive Computer Attitude, by Teaching Experience

SUB1

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	30	30.5000	3.0934	.5648	29.3449	31.6551	24.00	36.00
2	31	30.1613	8.9110	1.6005	26.8927	33.4299	20.00	74.00
3	32	28.6250	3.9574	.6996	27.1982	30.0518	20.00	35.00
4	31	28.9677	3.1463	.5651	27.8137	30.1218	23.00	36.00
Total	124	29.5484	5.3486	.4803	28.5976	30.4991	20.00	74.00

The hypotheses are:

Ho: There is no significant difference in the mean score of the Positive Computer Attitudes scale between the four teaching experience groups.

Ha: There is a significant difference in the mean score of the Positive Computer Attitudes scale between the four teaching experience groups.

F (3,120) = 0.890; p = 0.449 > 0.05.

The result of ANOVA suggests accepting the null hypothesis, i.e. that there are no significant differences between teachers of the four teaching experience groups in mean scores of the Positive Attitude scale.

Teaching Experience and Feeling of Intimidation of Using Computers (Sub2)

Data on the groups' responses to the Feeling of Intimidation scale are presented below.

Table 5.12: Group Statistics, Intimidation by Teaching Experience

SUB2

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	30	28.3667	5.9334	1.0833	26.1511	30.5823	17.00	37.00
2	31	28.0968	4.4897	.8064	26.4500	29.7436	20.00	37.00
3	32	26.9375	5.1239	.9058	25.0901	28.7849	18.00	37.00
4	31	27.1290	4.3798	.7866	25.5225	28.7356	17.00	34.00
Total	124	27.6210	4.9888	.4480	26.7342	28.5078	17.00	37.00

The hypotheses are:

Ho: There is no significant difference in the mean score of the Feeling of Intimidation of Using Computers scale between the four teaching experience groups.

Ha: There is a significant difference in the mean score of the Feeling of Intimidation of Using Computers scale between the four teaching experience groups.

F (3,120) = 0.612; p = 0.608 > 0.05.

This result confirms the null hypothesis that there is no significant difference between the four groups of teachers in mean scores on Feeling of Intimidation scale.

Teaching Experience and Usefulness of Computers (Sub3)

Data on the four groups' scores on the Usefulness scale are presented below.

Table 5.13: Group Statistics for Usefulness by Teaching Experience

SUB3

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	30	29.1333	4.2160	.7697	27.5591	30.7076	19.00	37.00
2	31	28.1613	5.3172	.9550	26.2109	30.1117	15.00	43.00
3	32	26.3125	6.9302	1.2251	23.8139	28.8111	13.00	38.00
4	31	27.5484	4.4858	.8057	25.9030	29.1938	18.00	35.00
Total	124	27.7661	5.3997	.4849	26.8063	28.7260	13.00	43.00

The Test of Homogeneity of Variance showed that ANOVA would not be the most appropriate test for these data. As a result, an equivalent non-parametric test was used instead of ANOVA. The test was used is the Kruskal-Wallis test.

The hypotheses are:

Ho: There is no significant difference in the mean score of the Usefulness of Computers scale between the four teaching experience groups.

Ha: There is a significant difference in the mean score of the Usefulness of Computers scale between the four teaching experience groups.

The result ($p = 0.740 > 0.05$) again confirms the null hypothesis that there is no significant difference between the different teaching experience groups.

Teaching Experience and Negative Computer Attitudes (Sub4)

The data on the four groups' scores on the Negative Attitude scale are presented below.

Table 5.14: Group Statistics for negative Attitude by Teaching Experience

SUB4

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	30	18.9333	5.6075	1.0238	16.8395	21.0272	10.00	38.00
2	31	20.6452	4.8959	.8793	18.8493	22.4410	13.00	35.00
3	32	21.8125	6.5177	1.1522	19.4626	24.1624	11.00	37.00
4	31	21.0000	3.6968	.6640	19.6440	22.3560	14.00	27.00
Total	124	20.6210	5.3292	.4786	19.6737	21.5683	10.00	38.00

The hypotheses are:

Ho: There is no significant difference in the mean score of the Negative Computer Attitudes scale between the four teaching experience groups.

Ha: There is a significant difference in the mean score of the Negative Computer Attitudes scale between the four teaching experience groups.

$F(3,120) = 1.612$; $p = 0.190 > 0.05$.

This result, also, shows no significant difference between the four groups of teachers in the mean scores on the Negative Attitude scale, and the null hypothesis is accepted.

5.3.5. University

University and Positive Computer Attitudes (Sub1)

The data on Positive Attitude scores for the four university groups are presented below.

Table 5.15: Group Statistics for Positive Computer Attitude by University

SUB1

	N	Mean	Std. Deviation	Std. Error
1.00	49	28.6735	3.6764	.5252
2.00	36	29.2500	3.2809	.5468
3.00	24	32.0417	9.6390	1.9676
4.00	15	29.1333	3.4198	.8830
Total	124	29.5484	5.3486	.4803

(1= UQU, 2= IU, 3= IMU, 4= KSU)

The hypotheses are:

Ho: There is no significant difference in the mean score of the Positive Computer Attitudes scale between the four universities' teachers.

Ha: There is a significant difference in the mean score of the Positive Computer Attitudes scale between the four universities' teachers.

$F(3,120) = 2.315$; $p = 0.079 > 0.05$.

The result of ANOVA suggests accepting the null hypothesis, i.e. that there are no significant differences between teachers of the four universities teachers in mean scores of the Positive Attitude scale.

University and Feeling of Intimidation of Using Computers (Sub2)

Data on the groups' responses to the Feeling of Intimidation scale are presented below.

Table 5.16: Group Statistics for Intimidation, by University

SUB2

	N	Mean	Std. Deviation	Std. Error
1.00	49	27.2245	4.7137	.6734
2.00	36	26.4444	5.0225	.8371
3.00	24	28.9583	6.0324	1.2314
4.00	15	29.6000	2.8735	.7419
Total	124	27.6210	4.9888	.4480

The Test of Homogeneity of Variance showed that ANOVA would not be the most appropriate test for these data. As a result, an equivalent non-parametric test was used instead of ANOVA. The test used was the Kruskal-Wallis test.

The hypotheses are:

Ho: There is no significant difference in the mean score of the Feeling of Intimidation of Using Computers scale between the four universities' teachers.

Ha: There is a significant difference in the mean score of the Feeling of Intimidation of Using Computers scale between the four universities' teachers.

Chi-square (from Kruskal-Wallis test) = 6.574; df = 3; p = 0.087 > 0.05.

This result confirms the null hypothesis that there is no significant difference between the four universities' teachers in mean scores on Feeling of Intimidation scale.

University and Usefulness of Computers (Sub3)

Data on the four groups' scores on the Usefulness scale are presented below.

Table 5.17: Group Statistics for Usefulness, by University

SUB3

	N	Mean	Std. Deviation	Std. Error
1.00	49	27.1224	6.2103	.8872
2.00	36	27.9444	4.7022	.7837
3.00	24	28.7083	4.6577	.9507
4.00	15	27.9333	5.4703	1.4124
Total	124	27.7661	5.3997	.4849

The hypotheses are:

Ho: There is no significant difference in the mean score of the Usefulness of Computers between the four universities' teachers.

Ha: There is a significant difference in the mean score of the Usefulness of Computers between the four universities' teachers.

$F(3,120) = 0.487$; $p = 0.692 > 0.05$.

ANOVA shows no significant difference between the four groups in the mean score on the Usefulness scale. Hence, the Ho is accepted.

University and Negative Computer Attitudes (Sub4)

The data on the four groups' scores on the Negative Attitude scale are presented below.

Table 5.18: Group Statistics for Negative Computer Attitude, by University

SUB4

	N	Mean	Std. Deviation	Std. Error
1.00	49	21.7755	5.3823	.7689
2.00	36	20.4167	6.1056	1.0176
3.00	24	19.0417	4.3885	.8958
4.00	15	19.8667	3.9617	1.0229
Total	124	20.6210	5.3292	.4786

The hypotheses are:

Ho: There is no significant difference in the mean score of the Negative Computer Attitudes scale between the four universities' teachers.

Ha: There is a significant difference in the mean score of the Negative Computer Attitudes scale between the four universities' teachers.

$F(3,120) = 1.611$; $p = 0.190 > 0.05$.

This result, also, shows no significant difference between the four teachers groups in the mean scores on the Negative Attitude scale, and the null hypothesis is accepted.

5.3.6. Curriculum Area

Curriculum Area and Positive Computer Attitudes (Sub1)

The data on Positive Attitude scores by curriculum area are presented in the following table.

Table 5.19: Group Statistics for Positive Computer Attitude, by Curriculum Area

SUB1

	N	Mean	Std. Deviation	Std. Error
1.00	64	28.9375	3.6640	.4580
2.00	47	30.2979	7.2858	1.0627
3.00	11	30.2727	4.0765	1.2291
4.00	2	27.5000	.7071	.5000
Total	124	29.5484	5.3486	.4803

(1= Arabic Language, 2= Islamic Studies, 3= Educational studies, and 4= others)

The hypotheses are:

Ho: There is no significant difference in the mean score of the Positive Computer Attitudes scale between teachers according to their curriculum area.

Ha: There is a significant difference in the mean score of the Positive Computer Attitudes scale between according to their curriculum area.

$F(3,120) = 0.746$; $p = 0.527 > 0.05$.

Here the Ho is accepted and there is no significant difference in the mean score of teachers in the four groups of curriculum area, on the Positive Attitude scale.

Curriculum Area and Feeling of Intimidation of Using Computers (Sub2)

The data on Feeling of Intimidation scores, by university, are shown below.

Table 5.20: Group Statistics for Intimidation, by Curriculum Area

SUB2

	N	Mean	Std. Deviation	Std. Error
1.00	64	27.3438	5.0086	.6261
2.00	47	28.4043	4.5904	.6696
3.00	11	26.5455	6.3775	1.9229
4.00	2	24.0000	5.6569	4.0000
Total	124	27.6210	4.9888	.4480

The tested hypotheses are:

Ho: There is no significant difference in the mean score of the feeling of Intimidation of Using Computers scale between teachers according to their curriculum area.

Ha: There is a significant difference in the mean score of the Feeling of Intimidation of Using Computers scale between according to their curriculum area.

$F(3,120) = 0.973$; $p = 0.408 > 0.05$.

Again, the null hypothesis is accepted and there is no significant difference between teachers in the mean scores on the Feeling of Intimidation scale.

Curriculum Area and Usefulness of Computers (Sub3)

Table 5.21 below shows the scores of the four groups, by curriculum area, on the Usefulness scale.

Table 5.21: Group Statistics for Usefulness, by Curriculum Area

SUB3

	N	Mean	Std. Deviation	Std. Error
1.00	64	27.2344	5.7508	.7188
2.00	47	27.8723	4.7440	.6920
3.00	11	30.1818	6.0302	1.8182
4.00	2	29.0000	4.2426	3.0000
Total	124	27.7661	5.3997	.4849

The following hypotheses were tested:

Ho: There is no significant difference in the mean score of the Usefulness of Computers scale between teachers according to their curriculum area.

Ha: There is a significant difference in the mean score of the Usefulness of Computers scale between according to their curriculum area.

$F(3,120) = 0.981$; $p = 0.404 > 0.05$.

This result confirms the null hypothesis and there is no significant difference between teachers in the mean scores on the Feeling of Intimidation scale.

Curriculum Area and Negative Computer Attitudes (Sub4)

The data on responses to the Negative Attitude scale, by curriculum area, are shown below.

Table 5.22: Group Statistics for Negative Computer Attitude, by Curriculum Area

SUB4

	N	Mean	Std. Deviation	Std. Error
1.00	64	21.0781	5.2834	.6604
2.00	47	20.1064	5.7530	.8392
3.00	11	20.4545	4.1560	1.2531
4.00	2	19.0000	2.8284	2.0000
Total	124	20.6210	5.3292	.4786

The hypotheses tested were:

Ho: There is no significant difference in the mean score of the Negative Computer Attitudes scale between teachers according to their curriculum area.

Ha: There is a significant difference in the mean score of the Negative Computer Attitudes scale between according to their curriculum area.

$F(3,120) = 0.363$; $p = 0.780 > 0.05$.

This result means there is no significant difference in the mean score on the Negative Attitude scale between the three groups of teachers.

5.3.7. Qualification

Qualification and Positive Computer Attitudes (Sub1)

The data for responses on the Positive Attitude scale in relation to qualification are shown below.

Table 5.23: Group Statistics for Positive Computer Attitude, by Qualification

SUB1

	N	Mean	Std. Deviation	Std. Error
1.00	45	29.3333	3.3710	.5025
2.00	49	29.2857	3.6572	.5225
3.00	30	30.3000	9.0101	1.6450
Total	124	29.5484	5.3486	.4803

(1- Bachelor, 2= Master, and 3= PhD.)

The following hypotheses were tested:

Ho: There is no significant difference in the mean score of the Positive Computer Attitudes scale between teachers grouped according to their qualification.

Ha: There is a significant difference in the mean score of the Positive Computer Attitudes scale between teachers grouped according to their qualification.

$F(2,120) = 0.388$; $p = 0.687 > 0.05$.

Thus, the Ho is accepted and there is no significant difference between qualification groups in mean scores on the Positive Attitude scale.

Qualification and Feeling of Intimidation of Using Computers (Sub2)

The data for the Feeling of Intimidation scale in relation to qualification are presented below.

Table 5.24: Group Statistics for Intimidation, by Qualification

SUB2

	N	Mean	Std. Deviation	Std. Error
1.00	45	27.0889	5.2563	.7836
2.00	49	28.6939	4.7311	.6759
3.00	30	26.6667	4.8233	.8806
Total	124	27.6210	4.9888	.4480

The hypotheses are:

Ho: There is no significant difference in the mean score of the feeling of Intimidation of Using Computers scale between teachers grouped according to their qualification.

Ha: There is a significant difference in the mean score of the Feeling of Intimidation of Using Computers scale between teachers grouped according to their qualification.

$F(2,120) = 1.969$; $p = 0.144 > 0.05$.

The SPSS output shows no significant difference in the mean scores on the Feeling of Intimidation scale between the three groups of teachers.

Qualification and Usefulness of Computers (Sub3)

The data on The Usefulness scores for the three qualification groups are shown below.

Table 5.25: Group Statistics for Usefulness, by Qualification

SUB3

	N		Std. Deviation	Std. Error
1.00	45	27.8222	5.1314	.7649
2.00	49	28.3265	5.5655	.7951
3.00	30	26.7667	5.5565	1.0145
Total	124	27.7661	5.3997	.4849

The hypotheses are:

Ho: There is no significant difference in the mean score of the Usefulness of Computers scale between teachers grouped according to their qualification.

Ha: There is a significant difference in the mean score of the Usefulness of Computers scale between teachers grouped according to their qualification.

$F(2,120) = 0.777; p = 0.462 > 0.05.$

Ho is accepted and the data reveal no significant difference between the three groups of teachers in their mean scores on the Usefulness scale.

Qualification and Negative Computer Attitudes (Sub4)

Data on the three groups' responses to the Negative Attitude scale are presented below.

Table 5.26: Group Statistics for Negative computer Attitude, by Qualification

SUB4

	N	Mean	Std. Deviation	Std. Error
1.00	45	20.2222	5.9425	.8859
2.00	49	20.5102	4.4680	.6383
3.00	30	21.4000	5.7392	1.0478
Total	124	20.6210	5.3292	.4786

The following hypotheses were tested:

Ho: There is no significant difference in the mean score on Negative Computer Attitudes scale between teachers grouped according to their qualification.

Ha: There is a significant difference in the mean score on the Negative Computer Attitudes scale between teachers grouped according to their qualification.

$F(2,120) = 0.543$; $p = 0.637 > 0.05$.

There is no significant difference in the mean scores on the Negative Attitude scale between the three groups of teachers.

5.3.8 Computer Ownership

Computer ownership and Positive Computer Attitudes (Sub1)

The data on responses to the Positive Attitude scale, by computer ownership, are presented below.

Table 5.27: Statistics for Positive Computer Attitude by Ownership

	Computer ownership	N	Mean	Std. Deviation	Std. Error Mean
SUB1	1.00	53	31.0377	6.7310	.9246
	2.00	71	28.4366	3.6984	.4389

The hypotheses tested were:

Ho: There is no significant difference in the mean score of the Positive Computer Attitudes scale between teachers who own computers and teachers who do not.

Ha: There is a significant difference in the mean score of the Positive Computer Attitudes scale between teachers who own computers and teachers who do not.

$t = 2.750$; $df = 122$; $p\ 0.007 < 0.05$.

The t-test result reveals that there is a significant difference in the mean score of the positive attitude scale between teachers who own computers and others who do not. Hence, there is justification to reject the null hypotheses. The difference is in favour of the owners' group.

Computer Ownership and Feeling of Intimidation of Using Computers (Sub2)

Data for scores on the Feeling of Intimidation scale, by computer ownership, are presented in Table 5.28.

Table 5.28: Statistics for Intimidation, by Ownership.

	Computer ownership	N	Mean	Std. Deviation	Std. Error Mean
SUB2	1.00	53	29.6981	3.8660	.5310
	2.00	71	26.0704	5.1888	.6158

The Levene's Test for Equality of Variances shows a significant F ratio ($p = 0.03 < 0.05$); consequently the Mann-Whitney test was used instead of the t-test to examine the null hypothesis.

The hypotheses tested were:

Ho: There is no significant difference in the mean score on the Feeling of Intimidation of Using Computers scale between teachers who own computers and teachers who do not.

Ha: There is a significant difference in the mean score on the Feeling of Intimidation of Using Computers scale between teachers who own computers and teachers who do not.

$z = -3.85$; S.

The result of the Mann-Whitney test revealed the existence of a significant difference between the mean scores of the two groups of teachers in the Feeling of Intimidation scale, with teachers who did not own computers feeling more intimidated than computer owners.

Computer Ownership and Usefulness of Computers (Sub3)

Table 5.29, below shows the scores of the two groups of teachers on the Usefulness scale.

Table 5.29: Statistics for Usefulness, by Ownership

	Computer ownership	N	Mean	Std. Deviation	Std. Error Mean
SUB3	1.00	53	28.9623	4.0333	.5540
	2.00	71	26.8732	6.1037	.7244

It appears here that the F ratio is significant ($p = 0.008 < 0.05$), which means that the Mann-Whitney was used to test the null hypothesis.

The following hypotheses were tested:

Ho: There is no significant difference in the mean score on the Usefulness of Computers scale between teachers who own computers and teachers who do not.

Ha: There is a significant difference in the mean scores on the Usefulness of Computers scale between teachers who own computers and teachers who do not.

$z = -1.771$; NS.

The result shows no significant difference in the mean scores on the Usefulness scale between teachers who own computers and teachers who do not.

Computer Ownership and Negative Computer Attitudes (Sub4)

The data for responses on the Negative Attitude scale in relation to computer ownership are presented below.

Table 5.30: Statistics for Negative Computer attitude, by Ownership

	Computer ownership	N	Mean	Std. Deviation	Std. Error Mean
SUB4	1.00	53	18.8679	3.7057	.5090
	2.00	71	21.9296	5.9697	.7085

The F value is significant (0.007 < 0.05). Thus, the Mann-Whitney test was used for investigating the hypothesis.

The hypotheses tested are:

Ho: There is no significant difference in the mean score on the Negative Computer Attitudes scale between teachers who own computers and teachers who do not.

Ha: There is a significant difference in the mean score on the Negative Computer Attitudes scale between teachers who own computers and teachers who do not.

z = - 2.697; S.

This test's results reveal that there is a significant difference in the mean scores on the Negative attitude scale between teachers who have their computers and those who do not. The negative sign indicates that teachers who did not own personal computers (group 2) had more negative attitudes than others.

5.3.9. Computer Training

Training on Computer and Positive Computer Attitudes (Sub1)

The data on the Positive Attitude scale, by attending a computer training programme, are presented below.

Table 5.31 : Positive Attitude, by Training

	Attending computer training	N	Mean	Std. Deviation	Std. Error Mean
SUB1	1.00	54	30.0926	3.6974	.5031
	2.00	69	29.0725	6.3601	.7657

1= attended, 2= did not attend

The following hypotheses were tested:

Ho: There is no significant difference in the mean score on the Positive Computer Attitudes scale between teachers who attended computer training programmes and teachers who did not.

Ha: There is a significant difference in the mean score on the Positive Computer Attitudes scale between teachers who attended computer training programmes and teachers who did not.

$t = 1.048$; $df = 121$; $p = 0.297 > p = 0.05$.

The results show that there is no significant difference in the mean score on the Positive Attitude scale between teachers who attended computer training programmes and teachers who did not.

Training on Computer and Feeling of Intimidation of Using Computers (Sub2)

Data for scores on the Feeling of Intimidation scale, by attending computer training programmes, are shown in the following table.

Table 5.32: Statistics for Intimidation, by Training

	Attending computer training	N	Mean	Std. Deviation	Std. Error Mean
SUB2	1.00	54	28.6481	5.4084	.7360
	2.00	69	26.8551	4.5480	.5475

The hypotheses tested are:

Ho: There is no significant difference in the mean score on the Feeling of Intimidation of Using Computers scale between teachers who attended computer training programmes and teachers who did not.

Ha: There is a significant difference in the mean score on the Feeling of Intimidation of Using Computers scale between teachers who attended computer training programmes and teachers who did not.

$t = 1.996$; $df = 121$; $p = 0.048 < 0.05$.

The t-test result suggests that the null hypothesis should be rejected and there is a significant difference in the mean scores on the Feeling of Intimidation scale between teachers who attended computer training programmes and teachers who did not, with the former feeling less intimidated than the latter.

Training on Computer and Usefulness of Computers (Sub3)

The data for responses on the Usefulness scale in relation to attending a computer training programme are shown below.

Table 5.33: Statistics for Usefulness, by Training

	Attending computer training	N	Mean	Std. Deviation	Std. Error Mean
SUB3	1.00	54	28.2778	5.5675	.7576
	2.00	69	27.3768	5.3112	.6394

The hypotheses are:

Ho: There is no significant difference in the mean score on the Usefulness of Computers scale between teachers who attended computer training programmes and teachers who did not.

Ha: There is a significant difference in the mean score on the Usefulness of Computers scale between teachers who attended computer training programmes and teachers who did not.

$t = 0.914$; $df = 121$; $p = 0.362 > 0.05$.

This means that there is no significant difference in the mean scores on the Usefulness scale between the two groups of teachers. Thus, the Ho is accepted.

Training on Computer and Negative Computer Attitudes (Sub4)

The data on the Negative Attitude scores for the two groups are presented in the following table.

Table 5.34: Statistics for Negative Computer Attitude, by Training

	Attending computer training	N	Mean	Std. Deviation	Std. Error Mean
SUB4	1.00	54	19.3519	5.2239	.7109
	2.00	69	21.6232	5.2723	.6347

The following hypotheses were tested:

Ho: There is no significant difference in the mean score on the Negative Computer Attitudes scale between teachers who attended computer training programmes and teachers who did not.

Ha: There is a significant difference in the mean score on the Negative Computer Attitudes scale between teachers who attended computer training programmes and teachers who did not.

$t = -2.381$; $df = 121$; $p = 0.019 < 0.05$.

The results show that there is a significant difference in the mean scores of the Negative Attitude scale between teachers who attended computer training programmes and teachers who did not. The negative sign indicates that teachers who had not attended computer training programmes scored higher negative attitude than their colleagues.

Summary

This chapter has presented the findings from a questionnaire survey of university teachers' attitudes toward computers as an educational tool. Four dimensions of computer attitude were investigated: Positive Attitudes, Feeling of Intimidation, Usefulness, and Negative Attitudes. Generally, teachers had positive attitudes.

Statistical analyses were carried out to explore whether their attitudes were significantly associated with their personal and professional characteristics, i.e. gender, age, teaching experience, university, curriculum area, and qualification, or with their computer background, i.e. computer ownership and previous computer training.

Negative computer attitudes were found to be significantly associated with gender (women have more negative attitudes than men) and age (negative attitudes increased with age).

Professional background variables (teaching experience, university, curriculum area, and qualification) however, were not significantly associated with any of the attitude dimensions. As might be expected, the variables most strongly associated with the attitude scores were the computer background variables. Computer ownership was significantly associated with three of the four sub-scales: computer owners had more positive attitude, less feeling of intimidation, and less negative attitude, than non-owners. As regard computer training, teachers who had attended training courses were

less intimidated by computers, perceived computers as more useful, and had less negative attitudes, than their colleagues who had not received such training.

These findings have important implications for any effort to use computers in teaching in Saudi Arabian universities, which will be discussed in a later chapter. First, however, we turn to teachers' perceptions of co-operative learning.

CHAPTER SIX

TEACHERS' INTERVIEWS

TEACHERS' INTERVIEWS

Introduction

This chapter contains the second part of the research findings (see Chapter 5, Introduction). It presents the findings from interviews with 35 teachers in the Arabic Language Institute at Umm Al-Qura University. It begins by discussing teachers' prior experience of cooperative learning. Teachers were asked whether they had ever let their students work together and, if they said yes, were asked

- For how long?
- How?
- What benefits have you noticed?
- How did you manage the class?
- Have you tried it again?
- Do you intend to do it again?

It then considers their views of the cooperative classroom, and their opinion of students having responsibility for their own learning. Anticipated problems with cooperative learning, including curriculum related issues and administrative support are also reported. The remaining section concerns teachers' views of necessary conditions for the successful implementation of cooperative learning, and the benefits they feel might be expected as a result of such a scheme.

6.1. Teachers' Experience with Cooperative Learning

As mentioned before (Chapter 4, Section 4.5.1.1.), the term " cooperative" was not used in the interviews with teachers. Instead, " group work" or other alternatives were used.

Most of the teachers stated that they had not tried any form of group work in their classrooms. The reason for not trying this method varied between teachers. Some teachers referred to their expected lack of genùine interpersonal dependence. Abdullah, an experienced teacher of Arabic Language and Linguistics, said, " *I am sure that many students will only depend on their peers to do the tasks. And if every student has to submit an individual paper they will be waiting for their friend's paper to copy it*".

Others claimed that they would not be able to judge the students' performance, as they believed that no sort of an individual accountability could be achieved. " *In my experience, always the group covers the individual's mistakes*" according to "Sami", a teacher of Arabic for non-native speakers. He then added, " *I had this experience when I was a student at the intermediate school in the geography lesson and found that the method was not attractive for me, as only the groups' leaders did the job and all the other students were watching the classroom ceiling and day-dreaming*".

From another perspective, some of the interviewed teachers referred to the fact that they had not heard about group learning during their teaching experience. Others said they knew about it but they thought it was suitable only for practical subjects rather than theoretical ones.

Some teachers blamed their not implementing group learning on the administrators. They argued that they would be happy to do what they were asked. As Qasim put it, "*If they asked us to implement a certain procedure, we will have no objection to doing so.*"

Another teacher, Ibrahim, described the situation as a very difficult one. He complained, "*We are between the hammer and the anvil. . .*[*] *administration should offer new ideas to*

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[*] An Arabic expression meaning "under intense pressure".

deal with teaching and learning aspect, people [teachers] *are not the same. You might find some one who is always trying to update himself, where many others give no attention. So, they* [administrators] *should do something regarding this problematic issue*."

Other reasons for not implementing the strategies of group learning involved some practical issues, such as the teachers' obligation to cover all subject material in a rigid timetable; also the lengthy syllabus and lack of teacher input into planning the programme. One of the oldest respondents, a Professor of Arabic Language, asserted, "*We would love to implement a lot of bright ideas. However, we cannot implement what we think is right with no problems. We as teachers have no access to the process of planning, for either the content or the timetable. Our situation is as the famous saying goes: " He put him in the sea water and warned him against getting wet*"". This problem actually seemed to be common among almost all the teachers interviewed. Almost everyone stated the large quantity of subject matter as a likely source of problems if group learning is implemented, which supports the rationale for mentioning this problem as an obstacle.

Another interesting point raised, as a factor which prohibits the implementation of cooperative learning, was the group environment, to which attention was drawn by teachers who had tried implementing cooperative learning in their classrooms raised this point. For example, "Salih" a teacher of Arabic for non-native speakers, commented, " *We faced a lot of claims that we were degrading the teacher's role and that we were just doing this for fun and not for the sake of knowledge. They also criticized us for being too close to students*". The administrators did not seem to encourage teachers to take the initiative to improve their teaching experience. This teacher commented that one of the most frustrating moments in his teaching life was when " *one of the heads*

told me that students graduated and passed exams without the headache of bringing in new, un-tested methods".

It appears from the interviews that the last two reasons preventing teachers from implementing group learning came from teachers who –in the real classroom life- had tried this strategy and faced these problems. The reactions to their efforts had left them with no choice but to abandon their new style and rely on the traditional lecturing method.

6.2. Teachers' Views of the Group Learning Classroom

In this part of the teachers' interviews, the researcher aimed to explore how teachers imagine and view the group learning classroom. Several aspects of this type of classroom were discussed. These aspects include the cooperative group size as well as whether or not the group should be homogeneous. Also, teachers were asked about seating students together and how it differs from the traditional classroom, and for how long groups should be maintained. In addition, after seating students together, what would they do to guarantee that students would work cooperatively and how would they control students' interactions? This leads to the important issue of what role the teacher would play in the cooperative learning classroom.

6.2.1. Group size and classroom arrangement

Teachers' opinions on the issue of the best group size for cooperative learning in their classrooms varied.

"Ibrahim", an assistant Professor of Language Sciences, argued that each group should "*consist of ten to fifteen students and this group should be the only group in the*

classroom". Also, he insisted on having only one teacher for each group of students. It appeared from further discussion with this teacher that he was concerned about students' segregation and lack of relationship with their teachers. He suggested this could be overcome by "*teachers' involvement with students in many extracurricular activities, such as journeys to landmarks and museums*. He insisted that "*no more than one group would work or be beneficial for students*".

On the other hand, a few of teachers viewed the best group size to be only two students. They argued that the two member group would give students the ability to get together faster and much easier. Getting students together and managing the classroom activities were the motives underlying this view, indicated by "Laila", an experienced female teacher of Arabic for non-native speakers, who said: " *If we have more than two students there is no chance to have students getting together. Also I cannot imagine the possibility of managing four students talking about an issue while I have four or five other groups doing the same. I believe that two-student groups will go smoothly, with the least difficulties possible.*"

However, the majority of interviewed teachers saw between three and six students to be the most suitable group size in the cooperative learning classroom. This might be a compromise view that solves many problems. This is illustrated by "Nizar", an Islamic Studies teacher who, said: " *Having a group of four to six students would overcome many difficulties. Firstly, the group is not too large which means we can get students together easily in contrast with larger group size. Secondly, the total number of groups will be reduced by at least half, compared to the case of two member groups. This means that managing the classroom will become an easier job for teachers. In addition, this group size would help teachers in assigning heterogeneous members to each group.*"

Teachers had divergent opinions about the group homogeneity issue. Many of them thought groups should preferably be heterogeneous, while the homogeneous group was less popular.

Many teachers claimed that only a heterogeneous group would be beneficial for students. "Nizar", quoted above, expressed a common opinion when he said: " *Sometimes grouping occurs randomly according to students' location in the classroom. However, it is much better to classify students according to their level of performance. This means we have high, average, and low level students so teachers could select a heterogeneous group where every member has some benefit to gain. The higher level students may not get more information than what they could acquire by themselves individually. However, they will get very valuable experience by being a tutor, helper, or being able to articulate their thoughts and ideas. On the other hand, the lower level students would get information that would be hard to gain by themselves individually*".

Although some teachers supported the idea of having heterogeneous groups, they viewed it from another point of view. They thought heterogeneity would facilitate cooperation between students. Some teachers considered heterogeneity as a condition for cooperation. As "Farraj", a teacher of Education, put it: "*If the group is homogeneous there will be no cooperation or interactions between the group members. The differences between students work as a catalyst that promotes students' interactions. It is the same as magnets where the positive and negative attract, while, on the other hand, magnets of the same polarity will repel each other*".

On the other hand, other teachers favoured the homogeneous cooperative group. These were concerned with the group's progress on their tasks. If the group was heterogeneous, the members might face difficulties in completing the assigned task as "

the group in this case will be governed by the progress of its weakest member who will be a big stone in their path to finish their job", as "Nabil", a language teacher said.

Getting students together and building team spirit was one of the concerns of some teachers. They thought it would not be possible to expect students to work cooperatively without knowing each other very well. Each group " *should last for at least one academic semester. This would build good relationships between the group members*," in the view of, "Adil", an assistant Professor of Arabic Grammar.

The classroom setting will not be the same as the traditional one. In the traditional case, students do not need to interact with their classmates. However, in group work, they have to sit in such a way that each group member can face other members. The teachers seemed to perceive this point very clearly. All of them believed that as "Sara", a teacher of Arabic put it, " *the picture of the classroom if group learning is implemented definitely changes. There will be circles of students facing their classmates, not the traditional rows or columns*".

6.2.2. How to make students work cooperatively

It is a famous saying in cooperative learning literature that seating students together will not guarantee they will work cooperatively. The researcher here asked teachers about this issue and how could they make students work cooperatively.

Teachers in their responses mentioned several approaches to persuade students to work cooperatively.

Seeding the concept of cooperation in students

The first way to get students to work cooperatively was to inculcate the concept of cooperation between students. Many teachers thought a teacher should illustrate the concept of cooperation firstly from a religious point of view. "Yasir", an Islamic Studies teacher, thought teachers should start by " *explaining the meaning of* (...) *and* (...) (two Quranic verses) then (...) (prophet's saying). Also giving examples from the real life where many tasks could not be done unless people cooperate to accomplish them". The concept of cooperation may be tackled from the perspective of human nature. Yasir also suggested "*students should be aware of what Ibn-Alqayim said, that mankind is social by his/her nature and cannot live individually*". However, "Haya", a female teacher of Arabic believed that it was no use giving her students such advice. She argued, " *we will get very little from talking to our students about the concept of cooperation. They have a stronger belief in the concept of grades*". Another female teacher, "Noora", who specialised in Arabic Literature, also saw no point of talking to students about the concept of cooperation, but from a very different point of view, as she thought students have highly cooperative personalities. " *I can see no need to tell students about the concept of cooperation. Actually we as teachers learn from them how to cooperate*", she said. Also teachers would illustrate the importance of working as teams in real life. "Jameel", an Islamic Studies teacher, thought students have to know that " *in the future they will not be alone. They will work in a group, wherever they go, so it is better to be prepared for their future*". Some teachers also insisted on building positive beliefs about cooperative learning in students. This view was expressed by "Manal", a female Islamic Studies teacher, who argued, " *if the students have no positive feelings toward cooperative learning they will not deal with it seriously. They might just enjoy taking the role of the teacher without doing any real job*". Other teachers, on the other hand, thought they could get students to do their tasks cooperatively, even though students do

not like it. "Ahmad", an assistant Professor of Arabic Literature, said that in experience, teachers " *met a lot of situations where students do the required task that they hate very much with no major problems*".

Incentives

Another approach teachers thought would make students work cooperatively is the incentive approach. Most of the interviewed teachers thought some external motivation would help the process of cooperation. Incentives of any kind would, in teachers' views, be helpful in promoting cooperative work. Students in a cooperative group would reply to incentives positively. " *The incentive could be some gifts, bonus marks, or encouragement*," a linguistics teacher said. Some female teachers believed that extra marks would do the job successfully. "Lubna", an Islamic Studies female teacher who had taught for five years, argued, " *Students at university level have passed the stage of giving them material gifts for their performance. What actually motivates them is marks*".

Individual accountability

Moreover, making students aware of their individual responsibility for what they have learned would enhance group work. According to "Adil", " *It is the other side of the coin. If they have incentives for their work, they have to have individual accountability*", he argued. Teachers believed that students would be careless if the accountability was absent in the cooperative classroom. "Sami" insisted, " *Students may enjoy sitting together doing nothing. Sometimes they do not care about incentives for any reason. This implies that this type of student will not participate seriously in any form of group work*".

Friendship factor in grouping

Selecting the group members according to students' friendship is another way to promote cooperation between students. Some teachers suggested this point as "*it help[s] students to get together faster. They can shorten the time needed to build their group as one team. Also they can distribute roles inside the group in a very smooth way*", in the view of "Arwa", a female Islamic Studies Teacher. This grouping strategy seems to make things as close to the natural way as " *students are already friends who cooperate in doing many things in their life academically or socially and sit together most of the time. As a result, no big change would occur and they will cooperate naturally*", according to "Hamad".

Competitions between groups

Another suggestion is making competitions between the cooperative groups. Teachers argued about competition and how it would promote cooperation between students in the same group. Some teachers believed that, as Muad", an Islamic Studies teacher, put it, " *competition would inspire students to be the best among other groups. They will shortly find out that attaining this goal will be conditional. The most important condition is their cooperation*". Only male teachers suggested this idea.

Clarifying the group goal

Another related approach that was believed to be beneficial in promoting cooperation was to make students aware of the group goal. It was thought that students would not cooperate well if they do not know the common goal. " *It is difficult to imagine students cooperating when they do not know what route should be taken and what is their destination. They cannot perform the desired cooperation unless they know the group's goal*," said "Mona", a female teacher of Arabic. Teachers were generally insisters on the

need to inform students of what they are expected to do. " *Students have to be informed exactly of what they are expected to do. Other wise, students may work haphazardly in guessing what teachers expect from them*," "Farraj" said.

Group processing

The final approach that teachers mentioned to promote cooperation between students is related to the issue of group processing. Some teachers had strong opinions regarding the issue of training students on group processing strategies in a cooperative learning setting. " *Without genuine group processing knowledge among students they would turn the group work to a total mess instead of a cooperative work. One should expect fights between them if they are not well trained on how to process the group work*," according to "Qasim", a teacher of Arabic for non-native speakers. On the other hand, other teachers attached more importance to the teacher's personality than to group processing. As "Ahmad" put it, " *Since the teacher is present and follows all groups in his classroom, students will face no problems in doing their cooperative work. I do not believe that we need to train students on group processing, it will occur naturally with time.*" Also, students should take turns and change roles within the group work to ensure that all students were involved equally. " *Students should exchange their roles in the group. Every student will take the responsibility of leading a major part of the group work in time. Indeed this way all students would feel a sense of belonging to the group which would increase cooperation*", as "Arwa" said.

Encouragement

Some teachers consider encouragement as a factor that promotes cooperation between students. Sara believed " *students, actually, respond positively to encouragement. Encouraging words cost nothing but have a very great value*".

6.2.3. Controlling students' interactions

In a cooperative learning classroom, the voice heard is not the teacher's. Instead, the voices of students will replace it. The classroom would have several groups and only one teacher. How could this single teacher control students' interaction and make sure that students' interactions focus on the task? The researcher asked teachers about this issue and found that they suggested several approaches and views.

100% control is impossible and sometimes is not a goal

An interesting point raised by some teachers is that students' having off-task interactions is inevitable. Controlling many groups' interactions by one person following all of them is " *beyond the capabilities of one human being. Nobody would say I can do it*," in "Nizar's" view. Indeed, this teacher and others shared the idea that total and rigid control should not be the aim of teachers in cooperative learning classroom. This is due to the fact that strengthening students' relations with others is a desired outcome of cooperative learning. As "Nizar" put it, " *A teacher should overlook the little off-task interactions which benefit in strengthening students' relations*".

Students will have no off-task interactions

Another view about this issue came from teachers who thought students would concentrate on the task, with no off-task interactions. This conclusion was reached from two different perspectives. The first one saw students as mature people and very enthusiastic to learn, so that they are not likely to have off-task talks. "Fatima" a female teacher of Arabic claimed, " *It is impossible for students to go off-task. The girls are very enthusiastic to learn. Also they are of a mature age*". On the other hand, other teachers took the issue from a different point of view. This view is also related to students' personalities. Teachers here saw students focusing on tasks because they are afraid to have off-task talks. " *No student in my experience would go off-task. They do*

not seem to have the courage or confidence to have some off-task interactions. I can hardly sometimes make them talk about on task issues. So I do not expect them to have any off-task talks," "Salih" said.

Teacher's personality

Almost all teachers shared the view that the teacher's personality is the critical factor that decides whether or not students' interactions will be controlled. Controlling the class, which includes interactions, is " *related to the teacher's personality in either cooperative or individualistic classrooms*" "Qasim" said. Some teachers thought that if the teacher did not have strong personality, students would go away from their tasks. "Razan", a female teacher of Arabic Literature, argued, " *The teacher's personality is the decisive element in controlling the classroom. If students were given the chance, they would talk off-task and what a lot of talk they have*". Some teachers supposed that students would keep their talks on task if they respected their teacher. As "Jameel" put it, " *Students who have respect for their teachers would not even think about talking about issues not related to their task. It is not fear of the teacher, it is the respect concept. Gaining this feeling is the teacher's responsibility.*"

Accountability

Here again, accountability appeared to be an agent that controls students' interactions in the cooperative learning classroom. Teachers could " *ask students individually about the ways they used to reach the result*" "Ahmad" suggests. Teachers believed accountability would help them in assuring that every student was concentrating on the group discussions and got some benefits. For example, "Emad", an assistant Professor of Language Sciences, suggested, " *Having individual tests is very important to know what each member in a group has gained from the group discussions. Without this method teachers cannot know the performance level of any member in the group.*"

Recording students' interactions

Having a tape recorder that records students' interactions may, in the opinion of two teachers, control students' interactions. As "Qasim" argued, " *since a teacher cannot be in more than one place at the same time, having a central tape recorder would enable the teacher to supervise all groups' interactions*".

Teacher's following groups

Among extra work that teacher would do in the cooperative learning classroom is following each group in the classroom to ensure that students are focusing on the required task. Teachers can ascertain this by " *frequently passing by each group. Sure, the teacher will be busy, but it is the way to guarantee that students are doing what they are supposed to do*", "Adil" said. Also, teachers should keep encouraging students to focus on the required task. "Yasir" suggested, " *if I encouraged students to concentrate on the task and did it frequently it would help to keep them focusing on the required task*". As another result of teachers' following groups, they could observe which group was doing well and which was not. In the case of the latter, teachers could make some changes in groups. If teachers " *saw students in a group are wasting time and not doing their job they could make some changes and move some members to another group. This would also give students an indication that the teacher was not satisfied with their work*," "Adil" said. In addition, teachers could punish students who repeatedly disrupt the group work. "Adil" suggested that the teacher could " *start by asking the student who disrupts the group work and wastes their time to correct his behaviour. If the student did not respond well I would have no choice but to punish him.*"

Having a group leader

Some teachers consider that the presence of an excellent student in each group would add another control on students' interactions. They believed, as "Nizar" commented, that " *the excellent and serious student in any learning setting will be excellent and serious in other settings. If we have this type of student in each group we can be sure the group will have serious on task talks. Also, this student could be the link between the group and teacher*".

Coupling the task and the time

Some teachers regarded the issue of having tasks that consume all the available time as a method of keeping students concentrating seriously on their job. Students would have no time to waste. "*The required task should make them busy all the time. It should also be challenging. Students would, in such cases, be aware of the fact that if they spent any part of the time out off-task, they would not do it in time*", "Jameel" said.

Building attractive lessons and making interactions a way of lessons

Teachers considered having attractive lessons and lessons that require interactions between students as a crucial factor with regard to on task talks. As "Hamad" expressed it, " *Students in my view would respond positively to attractive lessons which would engage them. Their attention will be kept occupied by the attractive lesson and there will be no chance, in such a situation, of any off-task interactions*". Having lessons that require students talk to each other in the group will be attractive. " *Our students are negative and passive in the classroom and I cannot blame them. It is our ways that made them like that. If the lesson requires them to be interactive they will be, in my belief, more inspired and attracted*", in "Salih's" view.

6.3. Teachers' Views about the Teacher's Role in Cooperative Learning Classroom

The teacher's role in the cooperative learning classroom will not be the same as in the traditional classroom. Cooperative learning as, a student-centered style, gives a lot of space for students to help each other and be responsible for acquiring knowledge.

In this respect, the researcher asked teachers about what views they held of the teacher's role in group work.

All teachers agreed that the teacher's role would change if group learning is implemented. " *The teacher will not be the normal lecturer any more. Teachers will perform different activities in group learning classroom*," Abdullah said. They perceived that the teacher's role in cooperative learning would be greater than the traditional lecturing style they used to have. They believed teachers would be, in Farraj's words, " *busier in a group learning situation and have to do more jobs than now*".

Interviewees suggested several roles that teachers would perform: monitor, guide, director, advisor, supervisor, facilitator, mediator, trouble shooter, organiser, encourager, supporter, manager, evaluator, follower, and source.

6.4. Teachers' Beliefs about Students being Responsible for their Learning

In this part, the researcher investigated teachers' views about letting students take responsibility for their learning and whether or not students are active in the classroom. He started by asking them about students' current performance. After that, they gave

their opinions on the suitability of cooperative learning strategies for their subjects. Then they were asked to what extent students could be given the responsibility to learn by themselves.

6.4.1. Satisfaction with student performance

Almost all teachers were dissatisfied with students' performance. " *I am never satisfied with the marks that students graduate with. This level is definitely not acceptable*," "Ibrahim" complained. However, only one female teacher believed " their levels range normally". On the other hand, "Adil" the only male teacher who opposed the others' view said, " *Students graduate with fair level of performance*". This teacher works as the head of his department, the Language Learning Department.

6.4.2. Students' participation in the classroom

Most teachers shared the same view that students are just receiving information in the classroom. As "Hamad" put it, "*The students are absolutely passive. We are just spoon-feeding them*".

Teachers were divided with regard to the cause of this problem. Some of them ascribed it to students, others to teachers, and still others blamed lack of time and an overcrowded curriculum.

Teachers in the first group blamed students for not participating in the classroom. Some teachers tried activating students. "Arwa" said "*I often ask girls to prepare for the lesson beforehand to get a chance of interaction, but almost always they do not do it*".

The second group blamed teachers themselves for this situation. They felt that teachers are the reason for the students' low level of performance and participation. "Mona"

argued, " *I admit that students' level is low academically but I never blame my girls. They are victims of teachers who do not do their job properly*". It was widely believed that teachers who did not prepare sufficiently for the class would not give students chance to be active in the classroom. "Adil" stated, " *In a case where the teacher is not well prepared for his lesson, he will definitely refuse any questions or arguments from students*".

The third group of teachers considered lack of time and excessive curriculum content as the reason. " *There is not enough time for argument or interactions. We can hardly finish the materials that are supposed to be finished*," "Mona" said.

However, all teachers agreed that students have to be active participants in classroom's activities. As "Nabil" put it, " *I prefer students to be active, not sitting in the classroom like a chair that does not speak*", while "Muad" insisted, "*Students should know they have a role in teaching themselves and not continue purely as recipients*".

6.4.3. Cooperative learning and the subject area

Teachers' opinions varied on the appropriateness of group leaning for the subject area.

Most of them thought it is appropriate for all subjects including their subject. "Fatima", female teacher of Arabic for non-native speakers, " *Undoubtedly it is suitable for every subject area*".

On the other hand only one teacher, Reda", who taught Arabic for non native speakers, thought group learning would not work in any area. He argued, " *It will never work because we will always have different levels of students*". Another teacher, "Farraj", believed that group learning is needed most "*when there are differences between students' ability levels, to raise them as close to equality as possible*".

Religious studies teachers took two extremes. Some of them believed this method to be the best way of learning religious studies while others thought it is not a possible or good way. "*This style of learning is the best for subjects that need searching references like* ((، تخريج الحديث *also the holy Quran as the prophet did"* said "Yasir", representing the first group. On the other hand, the other group considered that, as "Mustafa" put it, " *religious teaching has a very classic style which has never changed. It should continue with the same patterns*".

Some teachers felt group learning would work only with applied sciences. " *I do not think it is applicable in religious or linguistic subjects. It could only be applied in engineering or laboratory courses*," "Hamad", an Arabic Language teacher, said. However, another teacher from the same department, "Qasim", argued, " *This method is very beneficial, especially in logistical skills*".

6.4.4. Students' responsibility for their learning

Teachers in this part were asked to what extent students could be responsible for their learning.

Many teachers thought that students at university level should be responsible for their own learning. " *It is expected at the stage students study which is the university stage that the student is responsible for his learning. However, our students are not doing so*", "Adil" claimed. Other teachers argued that the lecturing method makes students used to receiving the knowledge without active participation. *"The original idea supposes students construct their own knowledge. However, students are used to receiving information from others, which makes them idle in the classroom*", "Muad" said.

Some teachers viewed the elementary stages of any subject to be a closed area for teachers, where students cannot do anything but receive information. "Mona" claimed, " *at the elementary levels, the teacher is responsible for everything and girls should receive from her*". Other teachers thought it depended upon the difficulty of the subject matter. For example, "*the unclear concept which is higher than students' thoughts is my responsibility and vice versa*", a teacher argued.

Most teachers felt that students should be supplied with the basics and the keys of the matter they are studying before allowing them to take over the responsibility of their own learning. As Arwa put it, "*Key concepts are my responsibility, students, then, could proceed to do examples and applications*".

Two teachers found it hard to accept the idea of "let go" and giving students any responsibility for their learning. They believed it is " *too hard to let a student be responsible for his learning*" as "Laila" claimed. On the other hand, "Salih" found himself and his students in an equal partnership. He stated, " *It is possible that a student sometimes teaches me. The students and I are in one boat discovering deep seas*".

6.5. The Curriculum and Cooperative Learning

The subject materials that have to be covered by teachers represent an obstacle to trying new teaching and learning styles. Teachers raised this issue in three different stages of the interviews. They, firstly, raised it as an explanation for their failure to implement cooperative learning. Later, they argued that planning and designing the curriculum to be suitable for group learning is a condition for successful implementation. And the third area was when discussing the problems that might be anticipated from implementing cooperative learning.

6.5.1. Curriculum as a preventative from implementing cooperative learning

The intensive curricular contents seemed to be a common story from teachers throughout the interviews. They complained about this issue as it prevents them from doing a lot of what they think beneficial for their students, other than group learning techniques. This problem was heard from both male and female teachers. "Mona" claimed, " *Actually we cannot finish the basic subject material so how could anyone think we could try what we want to try in order to help our students? The administrators have to be aware of this matter*". Another concerned male teacher, "Nabil" who, like "Mona" taught Arabic, said, " *I am constrained by the large content to be finished and time, which means doing better things that takes more time is a big risk as I am held accountable. This thing gives teachers no choice as nobody has an incentive to do his best in his classroom*". It appeared that the content materials were prepared without enough involvement of teachers. The curriculum was set in 1982 and no improvement, evaluation, or modification has taken place since then. " *The curriculum is very intensive and it appears that it was done without adequate studies of its suitability for learners or teachers. And believe it or not, nothing has changed for eighteen years, even misprints or mistakes. Also we have no teaching aids to help us to help students. So please do not expect anything from teachers until they are satisfied with the whole academic environment*", a frustrated "Lubna" said.

However, some thought the lengthy curriculum need not be a serious obstacle to implementing group learning in the classroom if the teacher prepared for it beforehand. "Salih", who had tried cooperative learning in his classroom said, " *The long content was a minor problem in my experience. I tried and worked very hard in preparing my lessons. I asked students to help me by preparing lessons before coming to the class,*

which helped me a lot in reducing the time needed to finish what I am supposed to finish. Although sometimes I could not do what I planned to do, I did my best to stay on time. Also, in my opinion, it is not necessary to practise group learning in every class. It is ok to try different styles which will enrich students' experience as well as mine".

6.5.2. Planning compatible curriculum with cooperative learning as a condition of successful implementation

In discussing what are the conditions for successful implementation of group learning, teachers raised several points. Among these points was the issue of the curriculum. Many of them argued that in order to have successful implementation the curriculum should be well planned to adopt cooperative learning strategies. One of the language teachers, "Haya" claimed, " *This is a very different way and very new for almost all of us. Also as I said earlier, we have a lot of long material to cover and we can hardly can finish it by the lecturing method. This means that the curriculum has to be well planned to meet the group learning style if we want a successful and smooth implementation with minimum problems*".

On the other hand, some teachers argued that a teacher could try his best despite the existence of this problem. Some teachers seemed to have very positive feeling toward cooperative learning. "Fatima" said, " *Planning the curriculum to be compatible with group learning is very good idea. However, if nobody took any action with regard to this issue, teachers could use group learning at least to some extent. It is easy for anyone to blame others for things that they could do themselves*". Although this teacher had no previous experience of cooperative learning, she showed great enthusiasm for practising it in her classroom, teaching Arabic for non native speakers. She contacted

the researcher several times afterwards, asking about how to prepare the class to practise working cooperatively.

Other teachers thought matching the content with group learning would be a good thing but not a major condition for successful implementation. Those teachers were teachers who had practised group learning in the past. " *Having nice distribution of the content materials with good planning would be bonus. It will help me a bit but the major task is how to operate the whole group works*" Abdullah said.

6.5.3. The curriculum as an anticipated problem if cooperative learning is implemented

The limited class times in combination with the extensive subject matter to be covered raised many fears in teachers' opinions. Many teachers were of the same view as the one who said, " *The content of the present curriculum is very lengthy, which means inevitably we will have a problem of having enough time to finish it*".

On the other hand, only two teachers; one male and the other female, thought no time problems would occur as result of implementing group learning. Moreover, one male teacher, "Ahmad" in contrast to all other teachers, argued, " *We have no problems of intensive contents. Actually I believe many times that we have too little content*". This argument does not fit with what teachers in general said. Interestingly, this teacher of Arabic was the head of a unit called "THE RESEARCH AND CURRICULUM DEVELOPMENT UNIT".

Finally, all teachers' opinions with regard to this issue were raised further with the relevant administrators. Their responses will be presented later in this study.

6.6. The Administrative Support Issue

Teachers mentioned the issue of administrative support in two different points throughout the interviews; firstly, when talking about the conditions for successful implementation, and secondly, when talking about the anticipated problems with computer supported cooperative learning.

6.6.1. Administrative support as a condition of successful implementation

Almost all the teachers believed that administrative support is one of the most important conditions for the successful implementation of cooperative learning. They thought, " *Any project or any idea, if it cannot rely on administrative support, this project or idea will not exist*" as "Jamal", an Arabic Grammar teacher, said.

Some teachers said that administrative support could be divided in two parts: financial support and encouragement and approval, though the relative importance of these two was a subject on which opinions varied drastically. One group of teachers argued, in "Ibrahim's" words " *We* [teachers] *will find no problems in the approval or encouragement to innovate in our teaching, but we* [teachers] *might not get any financial support which is the most important, unless the administration have a very strong belief in our innovation*". This view reflects that funding and financing any innovations in teaching and learning would be the decisive factor in implementation. On the other hand, a minority of teachers ignored the financial support issue to some extent and saw approval as the main priority. As one of this small group of teachers, "Salih" stated, " *Many developments could take place in education, particularly in the classroom, without any extra funding or many times at less cost. What – in my opinion –*

makes things run smoothly in implementing any new innovations is how the administration reacts. If they let us try and experiment without refusal, things will go all right. I am not asking – sometimes – for their encouragement; I just need their approval and for them not to reject my work".

These two divergent opinions came for two different groups of teachers. The first group, who placed greater emphasis on the financial support issue, represented teachers who had never implemented cooperative learning in their classroom or teachers who had implemented it for a very short time. In contrast, the second group, who attached importance to approval and permission issues, represented teachers who had implemented cooperative learning in their classrooms and then abandoned the implementation because of the lack of administrative support.

6.6.2 Administrative support as an anticipated problem of implementing cooperative learning

Almost the same two groups as in the previous discussion appeared here again. Both parties believed that the administrative support issue would be an obstacle to the implementation of cooperative learning.

The fear that insufficient funds were directed to improvement of teaching and learning was obvious throughout interviews with teachers. They claimed that the lack of facilities would be a major problem. Consequently, "*I think this method will not be implemented in the Institute of Arabic Language for non Arabic speakers or the whole Umm Al-Qura University for at least twenty years*" as " Razan", a female teacher of Arabic Literature, said. Another female teacher, "Lubna", complained about the lack of facilities and said " *we do not have a library for our students, a language lab, and many*

other things. Then how do you expect the administration to provide us with what we need to implement new innovations in teaching and learning?". Female teachers raised the problem of lack of facilities much more than male teachers. However, male teachers took this problem from another perspective. They talked about it in terms of future needs " *If we needed one table only, take your imagination to expect how long we would have to wait, so one has to consider this issue seriously*" "Emad" said.

The researcher took the points raised by teachers with regard to administrative support to the administrators in the university for further investigation.

6.7. Conditions for Successful Implementation of Cooperative Learning

At this stage of the teachers' interviews, the researcher asked them about what conditions are necessary for successful implementation of group learning in their real classroom.

Teachers considered several issues that related to successful implementation:

- Teacher's beliefs about the importance and usefulness of cooperative learning;
- Teachers' training on group learning;
- Incentives for teachers;
- Gradual implementation procedure;
- Teachers having certain characteristics;
- Administrative support;
- Curriculum issues;
- Continuous evaluation.

Teachers' opinions about these perceived conditions will be presented in the following section, with the exception of the administrative support and curriculum related issues, which are presented separately, as they include several dimensions that need further investigation.

6.7.1 Teachers' beliefs in cooperative learning as a condition for implementation

Teachers in this part of the interviews mentioned teachers' beliefs in cooperative learning as a condition for successful implementation.

Although most teachers considered teachers' beliefs as a basic condition for promoting cooperative learning in the classroom, there were some exceptions.

The majority of teachers thought commitment was the most important condition for introducing cooperative learning. As "Ahmad" claimed, " *beliefs are the base of everything. Teachers have to have positive attitudes toward the importance, methods, and benefits of group learning to implement it successfully in their classrooms,*". "Yasir" argued that the "*teacher is a man of principle. His mission is to give his student what he feels beneficial whatever the methods were*". Other teachers thought the importance of teachers' beliefs was that they influence students' development of positive attitudes toward cooperative learning. As "Ahmad" put it, "*A positive feeling toward this method should exist on both sides of the equation: teachers and students. And the best way to get students having positive feeling toward something is seeing their teachers believing in it*". Other teachers extended the importance of positive beliefs to include administrators. "*The most important condition is belief in the*

appropriateness of this method on the part of teachers, administrators, and students", "Fatima" said.

On the other hand, there were some teachers who did not give teachers' beliefs in cooperative learning much importance in the implementation process. As "Mona" put it, " *teacher's belief is not a condition. It is not necessarily needed that a teacher prefers this way or another. If the innovation is beneficial for students she should implement it. She has to recall that medicine is sometimes bitter, but she takes it to overcome her illness*". "Ibrahim" considered the beliefs of management with regard to cooperative learning as the central issue. He stated, " *My beliefs as a teacher have only a very small role. The most important thing is that the innovation is tested and proved to be beneficial and then it comes to our management to decide whether to adopt it or not, no matter whether we believed in it or not*".

6.7.2 Teacher training on cooperative learning as a condition for successful implementation

Teachers considered several dimensions when they argued the need for training as a condition of successful implementation of cooperative learning in their classroom.

Most of the interviewed teachers insisted on the importance of training. As "Noora" put it, " *training is very, very, very important* [if I am] *to succeed in implementing this new idea with my girls in the classroom*". Another teacher, "Muad" added, " *training by specialists is the fundamental stone to overcome any problems in implementation*". On the other hand, a few teachers felt no need for training on cooperative learning. "*There is no need for training to implement such a thing. It is the teacher's belief that decides whether or not things will go smoothly*", "Ahmad" said.

Teachers who viewed training to be an important factor in the success of implementation referred to a variety of training related issues.

One of these issues was whether training should be on-site or not. Some teachers thought teachers should be freed to get very detailed training, to have comprehensive understanding of all aspects of cooperative learning. As "Emad" stated, "*The teacher has to understand and conceive methods, strategies, and techniques of group learning in order to master his classroom's activities. He plays the role of the director in films as he coordinates the whole work in a productive manner, not a mess. And you know the saying, " the one who has nothing can give nothing*"". In contrast to this opinion, other teachers felt the matter was easier than one might think, which means training could be run in a smoother way. " *We have to view things as they are and not complicate them to such an extent that no one benefits. I do not argue, and I agree that training is important. However, and from my personal teaching experience in trying cooperative learning in my classroom, I totally believe we could have sufficient training in our place of work,, in our off-class times and there is no need to free teachers to have training*", "Nizar" argued. Also, some teachers felt that training workshops are useful but they are not the only way. As "Manal" put it, "*The training circles are very useful in every aspect. But if they do not exist, it is, in my opinion, possible for teachers to have self teaching and training in teams, bearing in mind it is the way we ask students to do things*". From another point of view, other teachers saw a need for alternative ways of providing training, to include teachers who do not want to attend formal training courses. "Jameel" said, "*We have some teachers who do not believe or do not like formal training. In order to include them in such activity, we have to approach them from different perspectives*".

Some teachers suggested that training in either case: formal or non formal, should be gradual. "In my view, training should be on site, and it could be done gradually. We cannot do everything in one shot", "Mona" said. Another teacher, "Muad", representing these who preferred formal training, said, "*Training should be formal to ensure that every teacher has got sufficient training for implementation. However, this training has not necessarily to be taken at once. It could be done gradually*".

6.7.3 Teachers' characteristics

Teachers considered several characteristics any teacher should have to succeed in implementing cooperative learning in the classroom.

Some teachers insisted that a good teacher should be aware of new methods in teaching and learning. As "Mohammad", a teacher of Islamic Studies with just three years' experience, put it, " *Teachers should read and follow what is going on in their field. They have to keep up-to-date. No medical doctor could settle on what he has learnt, he should follow up to have good knowledge in his field. The same goes for us teachers: This method [cooperative learning], for example, most of us did not learn well about it and its benefits for many reasons. In this way, the teacher could improve himself*". "Farraj" said, " *The teacher has to be ready for self learning and improve himself in the professional aspect.*"

Other qualities which many teachers felt are necessary in teachers who want to succeed in introducing cooperative learning are knowledge and experience. They believed that situations in the cooperative learning classroom will be different from those with which they were familiar in the traditional one. As "Hamad" put it, " *The teacher has to have extensive knowledge about his subject matter, as well as wide teaching experience. Situations in such a classroom will be many and different from the ordinary classroom*".

Teachers will be busier in preparing for lessons beforehand. Unexpected questions may be raised from cooperative groups. " *Teachers should pay enormous effort in preparing themselves for classes. They could, actually, not expect what they might be aske*d", "Laila" said.

The teaching profession is not like any other profession. The teacher carries a message to his students. This is a characteristic of a succeeding teacher in implementing cooperative learning, in the view of some teachers. As "Arwa" put it, "*The teacher should be aware that she is carrying a message not doing a job. If she believes so, she will exert the extra effort needed to face difficulties that usually occur with any new innovations*".

One final factor that would play important role to ease the implementation process is related to the teacher's personality. If the teacher likes trying new things and experimenting in his classroom, it would easier for him to adopt cooperative learning. As "Hussein", a teacher of Arabic and Comparative Literature, put it, "*The active teacher, who likes experimenting would likely succeed in adopting new innovations in teaching and learning*".

6.7.4. Incentives for teachers

Many teachers believed giving teachers incentives would encourage them to change their traditional methods and implement group learning.

Some teachers considered it as a crucial factor to make change. As "Emad" put it, "*The teacher now relies mostly on the lecturing method. He might use his notes for years without any change. It is an easy task for him to do so again and again. In order to persuade him to change to something different, one has to try rewarding him for*

changes". "Razan" added, "*Incentives might take many forms such as decreasing the teaching load or giving an opportunity to attend conferences*". On the other hand, some teachers considered improving their students' level of performance to be more important. "*Seeing my students improve is my best reward. Ask any teacher and she would respond similarly*", Laila replied.

6.7.5 Continuous evaluation

Successful implementation of cooperative learning would not occur without evaluation in some teachers' views. They believed it was necessary to take time and then see its outcomes, to evaluate it. As "Fahd", an Education lecturer, put it, "*This new method [cooperative learning] is the same as any new thing in the world, it would not come perfectly as some holy thing coming from the sky. Mistakes such as usually happen when first implementing new things would be likely to occur. Thus, we need to evaluate its outcomes and its effects on students, curriculum, facilities we have, and teacher preparation*".

6.8. Benefits of Cooperative Learning

In this section, the findings of teachers' interviews with regard to their expected benefits of implementing cooperative learning will be reported. They discussed who would get more benefits at the beginning. Then the cognitive, social, and personal benefits are identified.

Who would get more benefit?

Teachers felt all students would benefit from group learning. Some teachers believed that higher ability students would get more benefits than the lower ones. "*The higher*

level student would benefit more because he is ready to benefit from group work, while the lower one needs time to get ready for that", "Sami" said. On the other hand, other teachers felt the opposite. As "Muad" articulated it, "*When I say the group should be homogeneous, it needs no great knowledge that we aim to raise the level of low students to the level of the higher ones in the group. With no doubts, it is the lower level student who would get more benefit than others*". However, there were teachers who believed all students would get some benefits. "Nizar" argued, "*As I said before, each student – from any level- has benefit. The better student may not get more information but he would get more experience in speech, articulation, leading others, and even teaching. On the other hand, the lower level students might get more information that would help them to get better experiences*".

What benefits would be gained?

Teachers mentioned many kinds of benefits that they expected from co-operative learning. Their comments in this respect were so numerous and varied that to present them all in full, as with the previous topics, would require many pages; moreover, no clear pattern of responses emerged from individual teachers or from groups of teachers. For this reason, the benefits cited are simply presented here in list form.

Cognitive benefits

Teachers foresaw many cognitive benefits resulting from implementation of cooperative learning in their classrooms. Among them were:

- Students would more readily retain information they have found for themselves;
- Conceptual understanding of complicated topics would be aided by tracing their sources and how they occur;

- Fast transfer of information between students in groups would enhance learning;
- Speech ability would be improved;
- Teachers would have the opportunity to note any misunderstood concepts in students' minds;
- Transferring knowledge in an actual situation;
- Raising lower level students' performance;
- Encouraging deeper research of knowledge;
- Articulation;
- Training in teaching;
- Training in leadership;
- Helping teachers to do more important things.

Social benefits

The social benefits as seen by teachers are:

- Increasing student-student relationships;
- Enhancing the spirit of cooperation and eliminating selfishness;
- Preparing students for work and to live in the community in the future;
- Eliminating differences between students;
- Enhancing the human relationships between students and their teacher;
- Getting a better view of others' mistakes;
- Training on social meanings;
- Enhancing the sense of responsibility in students;
- Solving the problem of isolation in some students.

Personal benefits

Teachers thought benefits at the personal level would include:

- Increasing student's confidence;
- Creating active personality;
- Giving students a chance to realize their capabilities;
- Enhancing self dependence in constructing knowledge;
- Enhancing the ability of confronting other ideas;
- Increasing students' participation in debate in the classroom.

Summary

This chapter has reported the qualitative investigation of teachers' past experience, if any, with cooperative learning, and their perceptions and expectations regarding this approach.

Teachers who had tried cooperative learning were very much in the minority, and in most cases had given it up due to the pressures of the conservative environment and the lack of administrative support. These who had never tried the approach gave various reasons. Some were simply unaware of it; others thought it unsuited to their subjects, or felt it was not workable due to an overcrowded curriculum or students' inability to be responsible for their contribution and learning.

Opinions about class arrangement for cooperative learning varied. Some teachers thought the whole class should work as a group; others favoured several small groups. Most thought that the groups should be heterogeneous.

Regarding the feasibility and desirability of cooperation, teachers acknowledged the importance of this value in Islam and its usefulness in life, but some saw no point in

emphasising these values to students, either because they thought it would not work, or because they regarded it as unnecessary. Some teachers (but only males) thought cooperative learning would be enhanced by competition between groups. Most teachers thought students would need external motivation to be induced to work cooperatively. They also felt advice about group processing and individual accountability would be needed. There was a general recognition that their role would change under a cooperative approach; in particular, there would be a change in the nature of authority and control in the classroom, with the whole ethos being less teacher-centred and directed than at present.

Interestingly, satisfaction with student performance under the existing teaching environment was very low, and students were perceived as passive.

Although teachers expressed a wish for students to be active learners, ironically, however, some appeared to prevent that happening, by not being willing to try other approaches. Some Islamic Studies teachers thought that methods in their subject cannot be changed, having followed a set form for 14 centuries; others, however, disagreed.

The indications from the researcher's investigation of teachers' attitudes was that teachers generally had favourable attitudes to the idea of cooperative learning, as they did to computers (Chapter Five). In both of these areas, however, they claimed that there are problems of an administrative nature which impede change. To obtain another perspective on these issues, therefore, the researcher conducted interviews with some key informants at the administrative level. The outcomes will be reported in the next chapter.

CHAPTER SEVEN

INTERVIEWS WITH ADMINISTRATORS AND SENIOR STAFF

INTERVIEWS WITH ADMINISTRATORS AND SENIOR STAFF

Introduction

This chapter presents the third of the four dimansions of the research findings, namely, the interviews with senior academic and administrative personnel. Interviews with administrative staff took place, in the current study, to serve two main aims; firstly, to take issues pointed out in teachers' interviews to further investigation; secondly, and crucially, to obtain as clear a picture as possible of their thoughts and plans regarding introducing innovations at Umm Al-Qura University.

Two interviews were conducted with administrators in the Institute of Arabic Language for non-Arabic Speakers, and three with three of the senior staff at Umm Al-Qura University. Interviews were conducted in the administrators' private offices. All were shown and approved the interview transcripts, and gave their permission to be identified and quoted.

7.1. Interviews with administrators at the Arabic Language Institute

The researcher interviewed Dr. Mohammad Al-Qurashi, the vice dean of the institute and Dr. Mohammad Al-Thobaity, the person in charge of Curriculum and Research development unit in the institute. He had intended, also, to interview the newly-appointed dean of the institute, but the latter asked the researcher to interview the vice-dean because he would have more knowledge about the institute and its activities.

7.1.1. The interview with the Director of the Curriculum and Research Development Unit (Dr. Al-Thobaity)

The Curriculum Development Department was thought to be the place where any new developments in teaching styles and so on would be most apparent, as this is where all educational development is researched and planned.

This interview aimed to define the real role of this unit and the tasks it performs. In addition, the interview tried to investigate whether or not there is something called curriculum development still taking place at this unit. After that, discussion of issues such as the difficulties and obstacles, of financing, took place. The interview ended with suggestions to resolve problems in order to make the unit more active.

Dr. Al-Thobaity started with a description of the activities that this unit was established to perform. He said:

"*This unit was established to develop the process of development, as it is clear from its label. It started with:*

- *Preparing the curriculum and making follow up for development and evaluation;*
- *Being a medium for conducting and financing research;*
- *Preparing special curricula for courses taking place during the summer or outside the country.*"

However, in the researcher's experience none of these activities are still performed by the unit. When asked about this, Dr. Al-Thobaity responded:

"*All these activities now are not done. The only thing done is following up some, but not all, parts of the curriculum.*"

The change in mission from performing several developmental and planning tasks to just performing a routine task had, in Dr. Al-Thobaity's opinion, occurred for several reasons. As he put it:

"*Several reasons have contributed to cause the current situation. Firstly, and most importantly, the lack of continuity and consistency. Every new dean has different ideas and thoughts. There is no accumulation in our projects. We might start a project during the term of office of a dean, then after the first dean' tenure ends; the new dean may not have a positive feeling about the project. This situation does not help.*"

Dr. Al-Thobaity, then, went on to argue about the financial issue and problems associated with it. In his words:

"*The lack of financing is real. We receive no financial support. When there was an adequate budget, this unit engaged in many activities and research. This issue would contribute centrally to our situation. Just imagine that only one person, myself, with no secretary and nobody else, has to run this unit alone. At the same time I am expected to perform my full teaching load.*"

When Dr. Al-Thobaity was asked about the researcher's observation taken from teachers' interviews of a gap between teachers and decision-makers, he replied:

"*I totally agree with you. There is a real gap between teachers and decision makers at the university.*"

Then, Dr. Al-Thobaity gave his suggestions with regard to filling this gap in order to improve the teaching and learning process. As he put it:

"*In order to activate the situation and fill the gaps, several things should be done. Among these are:*

- *Holding regular meetings between teachers and administrators.*
- *There should adequate administrative support for several activities.*
- *Having workshops.*
- *Preparation of developmental plans by the authorities.*"

This interview highlighted serious problems with the educational development process. Changes of personnel, shortage of finance and communication problems all appeared to have constrained the work of the department. If the department with explicit designated responsibility for development was not carrying it out, it seems unlikely that development in curricula and teaching methods would take place elsewhere in the system. The impression that emerged was of a system in a state of stagnation.

7.1.2. The interview with the vice dean of the Arabic Language Institute for non Arabic Speakers (Dr. Al-Qurashi)

This interview with Dr. Mohammad Al-Qurashi, as one of the decision makers in the institute, aimed to find out the institute's policy in dealing with innovations in teaching and learning, and whether or not it supports innovations. Then, if the institute supports and encourages development and improvement, from where should the initiative come? Is it from teachers, or from the institution? Or both?

Dr. Al-Qurashi believed that the institute accepts the idea of experimenting and is willing to adopt new innovations in the teaching and learning process. He argued that any idea could be tested, with no objection. As he put it:

"*There is no problem at all, we are willing to accept new ideas. Matters that benefit our students and the process of teaching and learning are always considered and welcomed. In order to implement any new idea, it should be tested on a small sample at the*

beginning. If it is seen that the results are promising and the advantages are more than the disadvantages, I can see no outcome other than generalising and implementing it."

After stating that, Dr. Al-Qurashi proceeded to emphasise that the results of the experiment would lead to support. In his words:

"*Once there is confidence in the results, I do not think that there will be any problem in support. We will support it by every means we have.*"

Is financing considered as one of the means? Dr. Al-Qurashi stated:

"*You know that decisions on financial matters are not taken in our institute. They are decided in that building [his index finger was pointing to the administration building]. Our role is to support activities by pressing for finance. But other means that are in our hands are always available to our teachers.*"

Deciding who is responsible for suggesting for improvement and taking the initiative was another issue in this interview. Dr. Al-Qurashi felt that it is the teachers' responsibility to take initiative. As he put it:

"*In my opinion, taking the initiative should be the teachers' responsibility. If they do so, they find nothing but encouragement and support from us.*"

7.2 Interviews with other senior staff at the university

7.2.1. The Interview with the Supervisor of the General Management for Information and Academic Development (Dr. Abdullah Sairafi):

This interview with the supervisor of the General Management for Information and Academic Development, Dr. Abdullah Sairafi, aimed to clarify the roles of this unit and

whether they include academic staff development, or just training university officials such as secretariats. Then, having established it is involved with staff development, Dr. Sairafi described plans for qualifying new teachers as well as providing in-service training for serving teachers. Moreover, he expressed his opinions with regard to enhancing communication between teachers and the university's scientific research centres.

Dr. Sairafi started by giving the history of establishment of the unit and its mission. As he put it:

"*This unit was established in 1416* [1996] *as a unit of statistics. We found the job was concerned with tables and statistics, which seemed to be useless; anybody could do it without problems. As a result, we tried to think how to operate this unit to produce something beneficial. Since taking the right decision depends on the correct information, we started to build data bases of all aspects and activities in the university. This aimed to provide the real and correct information, as an input to strategic plans to develop the several aspects of the university.*

We are, meantime, in the process of establishing several data bases to help us in planning for the next ten years. These data bases include staff, students, curriculum, the different university official boards, teaching loads, and so on."

So, what about staff development, which is suggested by the name of the unit? Dr. Sairafi responded:

"*Now, there is an educational training programme under the process of approval at the university board. This programme will be compulsory as no teacher will be able to get a job in the university until he or she has attended this qualifying programme. The programme will provide enrolled teachers with educational preparation in managing*

the classroom, using teaching aids, preparing exam questions, and so on. This does not mean that educationalists [they are not included] *are better than others from other disciplines. With all respect to them, they should be able to do their educational job, which is "teaching", properly.*"

This programme was targeting new university teachers. So, what about existing teachers from other disciplines? Dr. Sairafi described short and long term plans to involve teachers in such a programme. As he put it,

"*In fact, we hope that all university teachers will enrol in this programme. However, their enrolment will be optional in the primary stages. If any teacher wants to attend the programme, we will be more than happy to offer him a place. Afterward, presuming our plans proceed smoothly, without rejection, the next step is to make this training a requirement of promotion. This means that no assistant professor will be promoted to the associate professor without a certificate of completion of the qualifying programme. This step will be associated with teacher evaluation by various means.*"

Then, Dr. Sairafi proceeded to give his thoughts about administrative support. In his words:

"*The administration supports us, and other departments, according to its resources, which are not always sufficient.*"

Dr. Sairafi thought bringing the research centres inside the college buildings would bridge the gap between teachers and the centres and help to involve teachers in the research and development process. He claimed,

"*I believe having the research centres inside the colleges' buildings will improve connections between them and staff members. For example, if the educational and*

psychological research centre were located in the same building as the College of Education, teachers passing the centre would be kept up-to-date with what is going on. At least saying "Salam alaikum" [equivalent to hello] *might extend to discussing research issues between teachers and people who are in charge of directing the research centre. The same applies to the science or language research centres. Now I feel that our research centres in all disciplines are isolated and something should be done about it."*

Dr. Sairafi gave the impression that a lot of things are in the minds of people who are in positions of authority in the university. As he concluded,

"*A lot of developmental plans are in our minds. Our hopes touch the sky. However, none of us own Moses' staff.*"

7.2.2. The Interview with Vice Director of Umm Al-Qura University for Academic Affairs (Dr. Nassir Al-Saleh)

Several issues were discussed in the interview with Dr. Nassir Al-Saleh, the vice-director of Umm Al-Qura University for Academic Affairs. Among these issues was investigating the possible reasons behind the overwhelming use of one teaching method, i.e. the lectures, by almost all teachers of the university. Dr. Al-Saleh revealed his thoughts with regard to the possible causes, such as the teachers, students, curriculum, and the subject matter. The interview then proceeded to discuss problems associated with both administrators and teachers and their contribution to fill in the gaps between them, if these problems were resolved. In addition, Dr. Al-Saleh was asked about his satisfaction with the activities of the scientific research centres at the university, their difficulties and how to overcome them.

Dr. Al-Saleh thought that teachers usually respond negatively to the university's plans for development. As he put it:

"*In relation to the university's developmental plans, they usually meet with objections, resentment, and resistance from teachers and administrators*".

He thinks that teachers are inhibited by what they have been used to for ages, as "*teachers, for a long time, have used a particular traditional method which they are familiar with. I know and understand that it is very difficult for teachers to change their traditional way of delivering their information and knowledge to their students, but they have to do so. We should encourage the teacher to believe in himself which would lead to trying to improve his teaching and try different approaches.*"

Then, Dr. Al-Saleh proceeded to argue that there is still a traditional view about dominating teachers and passive learners. As he put it:

"*But I still feel that teachers here, at Umm Al-Qura University, carry the traditional view of the teacher as the person who has to dominate every single action in the classroom. Also, at the same time, teachers generally have the same view about the student as a person who cannot take responsibility for his or her own learning.*"

The researcher asked Dr. Al-Saleh about the curriculum and how it affects the styles that teachers use in the classroom. He started by giving his thoughts on the curriculum in the general education stages as follows:

"*I taught generations and generations. Also, I monitored my kids and others. What I can say about our curriculum is that it only supports and encourages the process of memorisation and makes students very passive agents in the classroom.*"

This way of teaching has led, in Dr. Al-Saleh's opinion, to many negative results. He claimed that:

"*This way of teaching and schooling has resulted in very negative outcomes, not only for students but also for their parents, who are also products of this type of schooling. They* [students and parents] *became absolutely passive. This always happens. Although some parents are highly educated, many of them never commented about what they see wrong in their kids' learning. Moreover, among negative outcomes, students lose their spirit of inquiry and they do not have confidence in their abilities, since they depend on their teachers to spoon feed them with information. From my experience, and from facing real situations, this does not apply only to kids or to students at the undergraduate level. I have known cases of very dependent students at the higher studies level. Moreover, this* [traditional] *method will have a very bad reflection on the social and professional life of students after they graduate from the university.*"

After discussing the curriculum at the general education level, Dr. Al-Saleh continued to give his thoughts about the curriculum in Umm Al-Qura University. He commented:

"*Actually, the curriculum in the university has several disciplines. However, generally speaking, teachers most times do not follow the guidelines of their subject matter contents, and on many occasions they do not complete what they are supposed to. Saying that there are many disciplines leads me to talk about what I used to teach and practise. The procedure that has normally been followed in order to determine and approve the curriculum of any course is to decide three major matters: the aim of the course, the course description, and the course content units. Unfortunately, in most cases, we cannot determine whether or not these three requirements have been met. This is due the fact that we do not have the means to do so. What happens, in real*

university life, is no more than individual efforts that sometimes reach success, and at other times reach unknown outcomes."

The researcher has noticed a lack of connections and communication between teachers and administrators in academic departments. This issue was presented to Dr. Al-Saleh who responded:

"*Actually we face problems not only with untrained teachers, but also there are unqualified administrators or deans. Our problem can be summed up as how to qualify our administrative staff such as deans, chairmen of academic departments, and so on to be capable of leading and managing groups of teachers, students, and the various educational activities, which include development and improvement of the teaching and learning process.*"

He, then, commented on what characteristics should be possessed by someone in a leadership position:

"*The person at the top position of an institute or college, i.e. a dean or similar sort of position, should have the knowledge, experience, and the leadership skills that are needed to make him able to take the initiative in inspiring staff to develop various educational styles and activities. Also, they* [administrators] *should be able to make developmental suggestions and give constructive feedback to teachers. But, unfortunately, there is a lack of leaders of this type.*"

Dr. Al-Saleh did not feel that the problem was the responsibility of administrators of academic departments only. Teachers are also responsible. As he argued,

"*It is not supposed that we wait until teachers come up with a developmental project, suggestion, or research. Let us assume that they do not show up, which is almost always the case. Is it a good idea to say that nothing could be done? I had the experience of*

working as the dean of the Scientific Research Institute and most of the research projects and papers done by teachers only had the aim of job promotion. I can hardly recall a single research project that was really original and aimed at development, improvement, or to solve a problem faced by the university or society."

Then, do financial matters create the problems? Dr. Al-Saleh responded:

"*Financial matters are not considered, in my opinion, to be a real problem that constrains teachers from researching, although our financial resources at Umm Al-Qura University are limited and less than required. However, I say there is no problem financially due to the fact that, now, we have several sources of financial support for research. Take, for example, the King Abdul-Aziz City for Science and Technology. In the past, the* [King Abdul-Aziz] *city used to support technical research only, but now they have started to support social, humanities, and educational research as well. In addition, support could come from the Office of Education of the Arabian Gulf Countries, which is devoted to educational research as its name shows, and many other organisations that are willing to support original developmental research which will help to improve our education and in turn our life and society. But the question is still valid, where are the active teachers?*"

The research centres are located in a separate building in the university campus. Does this affect teachers' participation in research? Would it be better to have these centres inside colleges, or would it make no difference? Here Dr. Al-Saleh argued about these issues:

"*The physical distance between colleges and the research centres is not a problem. It is not that far, it is a matter of minutes walking. Even if we had these research centres inside the buildings of our colleges, I believe nothing would be changed. I have seen*

other universities such as King Saud University which have their research centres away from colleges but are still more active. In the past, these research centres were inside colleges and, believe me, there is no big difference in the situation. However, you know that it is now a new policy from the Ministry of Higher Education to have all research centres within one administrative structure, which leads us to have all our centres in one building."

Dr. Al-Saleh thought that making connections, links, and communication between research centres and teachers would be one of the solutions. As he put it,

"*Making active links with staff of the different colleges is one possible solution. I used as the dean [of the Scientific Research Institute] to visit all colleges and academic departments to describe the mission of the institute and what it offers to researchers. Also, we used to send all our publications to each staff member individually, addressed to him personally. The results of these efforts were promising. Teachers reacted positively to our efforts and there was a better amount of research papers during that period.*"

Dr. Al-Saleh noticed the existence of an individualistic attitude among teachers at the university. He thought that this prevented teachers from being able to discuss important topics. He felt co-operation between teachers is crucial. He stated:

"*There also should be co-operation between teachers from the different disciplines. I can tell that we have a very scary individualistic attitude among our staff. These negative attitudes are real obstacles. To improve and develop, we have to have researchers from different areas of specialisation to keep working together in a spirit of team work, and research topics that really matter to both the university and the society.*"

Then, Dr. Al-Saleh agreed about the issue raised by the researcher, that research centres could activate the research process by suggesting topics for research. In his words:

"*The scientific research centres should be able to suggest research topics and distribute them throughout the university. This might, and should help to encourage and activate the research spirit of our teachers, as well as researching the most important things.*"

0n the subject of teacher training, which Dr. Al-Saleh thought very important, he said:

"*It is very crucial to ensure that a teacher is qualified and trained to teach in a proper way. They have to be able to present their knowledge and skills to their students in the classroom. The teacher must know how to present his subject, divide the subject matter properly over the academic term, evaluate and assess students, and so on. We have some teachers who are distinguished scholars in their field of scientific specialsation, but, unfortunately, they might not be able to convey their knowledge to students in their classes. On the other hand, some teachers, with less knowledge about the subject matter, are very successful teachers in their classroom. They are very active in the classroom, and inspire their students through a variety of activities that make the whole class as active as you can imagine. Their positive effects on students are far better than others.*"

Dr. Al-Saleh, then, proceeded to point out the steps needed to improve teaching especially "teacher evaluation" and the resistance that faced this step. As he put it:

"*In order to ensure the quality of teaching, we have to consider various aspects and methods of evaluating teaching, by students and by the academic departments in the university. The main aim of this evaluation is to give teachers the chance to improve their level of teaching. As a practical step to attain this goal, there was a project of teacher evaluation, and we presented it to the university board, but, unfortunately, it*

was rejected. Some deans were not happy with this idea. They were not willing to accept the idea of a teacher being evaluated by his students. However, we will keep trying until we reach an acceptable, reasonable form of evaluation. Now, we are at the stage of determining which factors or indicators describe the teacher's performance. This folder [a folder on his desk full of reports], as you can see, is loaded with several forms of evaluation from many U.S and British universities, and other countries, and the only Saudi university that implements teacher evaluation which is the King Fahd University of Petroleum and Minerals. We hope to elicit things that will help us in our project. The aim of the evaluation is not to harm the teacher at all. It aims to give teachers as clear and real feedback about all matters of their teaching performance in the classroom as possible."

Looking at the experiences of other universities was considered by Dr. Al-Saleh to be another solution to enhance teaching quality. As he put it,

"*There is another important aspect that needs close attention. This is about showing our teachers various experiences and thoughts in the field of education in other environments or countries. I support the idea of sending our graduate students to other universities or countries to get their higher degrees, even if we have the same programmes that offer the same degrees. This would give our teachers a great opportunity of gaining different experience. They will be more willing to accept and adopt new approaches, and accepting "the new" in general. In our university, there are teachers who have never seen any different picture of the educational process than what they have been used to for ages. If they were able to see other experiences, there would be, in this case, exchange of ideas and experiences. This is possible for our current teachers. They have the chance to visit other universities in the summer holidays or through their scientific leave which is possible for one full year each five years.*"

In contrast to the teacher's responsibility for keeping traditional, unsuccessful methods in the classroom, Dr. Al-Saleh did not blame the student. He claimed:

"*Our students are the same as any other students in the world. They are not less capable. I might agree that they are used to a certain traditional way of being treated in the learning process, but I strongly believe that if they were given the chance and encouraged to be active learners they would surprise everyone. Let me tell you something. When I was the chairman of my department, after a graduate student had taken all his certificates, to guarantee that nothing might affect his responses, I gave him a questionnaire to fill about his teachers. Surprisingly, I noticed that teachers who are considered to be easy teachers, which means they just give the students handouts to memorise and give high grades, these teachers received a very low rank. On the other hand, and this really surprised me, teachers who give students a tough time expecting them to be active and responsible learners, were valued very positively by their students. This experience convinces me that the problem is strongly related to teachers, rather than students.*"

7.2.3. The interview with the University of Umm Al-Qura Rector (Dr. Suhail Quadi)

There were several aspects covered in the interview with the university rector. The first was about the plans of the university to introduce computers in the teaching and learning process and what practical steps were taken in that direction, as well as the difficulties facing the university. Then, attention was drawn to the issue of staff development and enhancing teaching efficiency. Also the programmes being prepared for teachers as a staff development programme, were discussed. Academic curriculum development was another important issue raised in the interview. Dr. Quadi spoke about

the university's intentions in this regard and its practical steps as well as obstacles facing this desire. The last issue discussed was Dr. Quadi's perspective of teachers' reaction to change, and what could be done with regard to opposition.

Regarding the issue of Umm Al-Qura University's plans to introduce information technology, Dr. Suhail Quadi responded:

"*The university plans are in two aspects:*

First: Qualifying and training all the university officials, teachers and students to be able to use the computer in different fields of life.

Second: Preparing the required computer sets, programs, networks, and different computer services needed for the information and computer centre of the university.

<u>The practical steps taken in this field</u>

1- *Periodical programs to hold training courses on the computer applications to prepare the university's teachers and officials.*

2- *Some steps have been taken and will be taken in the field of using machines to replace manual work in all different sections and stages of the university according to gradual schedules. For example, the university uses the programs of admission & registration, financial administration programs, communication programs, missions abroad, the medical administration programs, and so on. These programs, which are prepared now to suit the work nature of the related departments, will be used directly by the information and computer centre.*

3- *The committee formed from the university administration recommends the university to take an overview in the university's curricula and requirements. The*

computer should be one of the required subjects in the different departments and colleges of the university.

4- *The university offers the Internet communications and the E- mail services to ensure academic communications among all university officials and students and to save the services of the Internet.*"

Then Dr. Quadi continued to talk about anticipated obstacles in attaining the university's goal of widespread use of computers in all aspects and activities in the university. As he put it:

"**<u>The obstacles that face the university in this direction are</u>**

- *The low attention given by some of the university officials to the computer's importance and its role as an important innovation in various recent developments.*
- *The shortage of Saudi qualified staff for operating these programs*
- *The rapid development in the field of computers, the required programs and sets.*
- *The costs of the computer sets make it very expensive to develop the operation programs*".

With regard to staff development and enhancing teaching efficiency, the rector started discussing the great attention that the government pays to the issue of development. He mentioned that the government has issued an article that orders every governmental unit to establish a special unit devoted to management improvement and development. Then he described the university's response, which was building data bases for all aspects of work at Umm Al-Qura University in an Integrated Data Base. After that, he transferred to the practical steps, as he said:

"*So, The University began to build an integrated database to be used in making decisions, planning, developing the strategies of the education during the next ten years.*

From the above mentioned points, the university completed the second stage the student accommodation, developing the computer section of the university and establishing inside networks to connect all the university's utilities. On the other side of developing the abilities of the university workers, administrational officials and teaching staff, the university administration recognized that there was big deficiency in operating the computer and new technical tools. As a result of that, the university sent 68 officials to be trained in the Administration Institution in 1418 – 1419H [1998-1999]. *Also, it sent 585 male and female officials to be trained in computer sciences and new programs in this field. The university will send 122 officials to enrol on programmes ar the Administration Institution in the fields of secretariat, office management and various other departments, appropriate to the field of work in the university. During this academic year, about 1165 male and female officials will enrol in the advanced complete courses in computers.*

The university is trying to build a programme on computers and information in the academic departments".

Then Dr. Quadi described how the university is trying to enhance the educational process by introducing a new programme aiming to qualify teachers educationally. As he said:

"*The university is preparing for an intensive teaching program in the educational sciences for the teaching staff.*"

Another point that is associated, in Dr. Quadi's opinion, with staff development and enhancing teaching quality, is teacher evaluation. He stated:

" *The university does its best to put a strategy for evaluating the works of the teaching staff through studying the statistical distribution of their subjects' marks. The study will apply a questionnaire for evaluation of teachers by their students, as one of the indicators of teaching efficiency*".

Sending teachers to attend scientific conferences and workshops were important issues that the university cares about to improve teaching. As Dr. Quadi put it:

"*The university is concerned with sending its teaching staff, to take part in the seminars, conferences, and workshops concerning the nature of their studies. In 1418-1419H* [1998-1999] *the university sent 48 teachers to many different countries to take part in different scientific conferences.*"

Dr. Quadi tried to be as optimistic as possible when talking about obstacles that might face staff development. He argued,

"*In relation to the obstacles, they are very limited and we can overcome all of them to achieve the university's aims*". Then he mentioned staff hesitation in accepting developmental programmes that could be overcome by training programmes. As he added:

"*In relation to the obstacles we face in applying the above mentioned programmes, I think that there will be a kind of hesitation among the staff regarding the new methods of training courses in these programmes. But they will discover that this programme will help them in their work.*"

Dr. Quadi started by stating that there is a need for teachers to improve their skills in order to have development. As he put it,

"*I think that some of the teaching staff need to develop their teaching skills to help the process of using and developing the methods of teaching.*"

The rector talked, also, about the university's efforts to develop academic programmes that enable the university to keep up to date with innovations, as well as satisfying the society's needs as he said:

"*In the field of developing the academic programmes and faculties, there is a committee formed from the university council to produce practical and theoretical strategies for evaluating the academic programmes through two criteria: the first is to ensure the high level of the academic programmes and their quality. The second is to ensure the academic programmes' output. They should meet the needs of the Saudi society in a very good manner*".

Then, Dr. Quadi talked about the students' role in the university as the centre. As he put it,

" *Students' involvement and participation in the teaching and learning process is a large part of the university's mission. All the facilities of the university and its activities, efforts, are dedicated to serve the students.*"

The rector, then, stated his wishes for students' participation in the process of curriculum development as follows:

"*It is hoped that when the university performs the comprehensive evaluation studies on the curricula, students will have a great opportunity to be the main party in these studies. They should give their points of view about the curricula they study. The students should indicate for the strengths and weaknesses in meeting their educational needs*".

Dr. Quadi believed there were two major problems facing the university's plans for curriculum development. The first concerns financial resources and the other was related to teachers and academic departments. As he argued,

"*The most important obstacle in this direction is the shortage of financial sources to help in forming a research team for curriculum development. Some of the teaching staff are familiar with the recent curricula, funded decades of years ago.*"

When Dr. Quadi was asked about his expectations with regard to teachers' responses to the changes, he classified teachers into two major groups. One group is willing to change and participate in development programme, while, on the other hand, others are expected to reject such plans. He stated:

"*First of all, the members of teaching staff, agreeing with the university in that tendency, will help the university and support its efforts to change the curricula. But some of them will take the line of objection. they will be wary of any type of changes, out of fear for their jobs, but this is misguided.*"

To deal with this problem of the latter group of teachers, he thought these teachers should be given the chance to improve themselves in various ways. As he stated,

"*This kind of teacher should take much time to see other methods of teaching, theories, applications in the field of curricula. We can achieve that by encouraging them to join training courses and workshops to develop their skills and improving their understanding about the changes.*"

However, he did not feel that the university has done enough in this respect. He said,

"*I feel that we are at fault in this respect. We have the university developing administration, working to prepare such programmes. We hope to activate the role of*

that department in the future. The role of this administrational department has been restricted to computer courses, for some of teaching staff. We are waiting for more programmes and courses on teaching and different educational situations for teaching staff of the university, to transmit information, theories and teaching skills".

All these efforts will, in Dr. Quadi's opinion, improve teachers' willingness to change. As he put it,

"*After practising this work, it will be easy for teaching staff to deal with different tendencies of change.*"

Students also have a role in the change process, as Dr. Quadi said:

"*In relation to the students' role, I wish students to share in making decisions of the university, such as giving their views about the curricula they study, sharing in the process of evaluating the performance of the university teaching staff and taking their places in some of the university councils and developing committees.*"

Dr. Quadi seemed to be optimistic in his comments on teachers' attitudes to using computers. He concluded that:

"*I think that we are in touch with the desire of teaching staff to use computers and related technology after having computer services in the university for all and participating in E-mail and Internet.*

Now it is very easy to use these services inside your office in the university. We hope this service will include all the university officials."

Summary

This chapter has reported the outcomes of interviews with university administrators, concerning such matters as curriculum development and the acceptance of innovations in teaching, in order to get some ideas about whether or not the introduction of a new approach such as computer supported co-operative learning would be accepted and supported.

Administrators admitted that curriculum development had been curtailed in recent years and that there was a tendency to rely on traditional teaching methods, it was asserted that there was no reason, in principle, why innovative ideas should not be supported, subject to their being tested and found satisfactory.

A number of reasons were given for lack of development and innovation, including lack of continuity in staffing, and funding constraints.

Much criticism was also directed to teachers who were accused of lacking initiative, being resistant to change, and not following guidelines. The poor quality of much educational research was also criticised

Various measures were suggested for improving the situation. Already a staff development programme has been planned for, though it is not compulsory, nor is it linked with promotion. Other suggested measures included improving communication, for example by relocating the research centres within the colleges; revitalizing teacher evaluation; and giving teachers opportunities to broaden their experience, for example, through study abroad.

The interviews also shed light on the university introduction of new computer systems, and on going programmes to train teachers in various aspects of information and

communications technology, which would obviously important if the computer is to be used as a tool in co-operative learning.

These findings complement (and in some ways conflict with) these from teachers' interviews, as will be discussed further in chapter nine. First, however, the outcomes of the third dimension of the study, namely, students and their computer supported co-operative learning, will be presented.

CHAPTER EIGHT

STUDENTS' EXPERIENCE WITH COMPUTER SUPPORTED CO-OPERATIVE LEARNING

STUDENTS' EXPERIENCE WITH

COMPUTER SUPPORTED CO-OPERATIVE LEARNING

Introduction

In this chapter, the researcher's observations of students working in groups at the computer will be presented. Also, the outcomes of the student interviews will be reported. In reporting the former, the focus is on categories of students' verbal interactions while working together at the computer. The second part of the chapter explores students' reactions to the co-operative learning experience.

8.1. Students' Interactions

Two out of the 10 sessions of co-operative group work were taped. The taped sessions were held towards the end of the second week, to give students time to get used to the new approach. The first one took place during an Islamic Studies lesson, while the other dealt with an Arabic Language lesson. Students spent 60 minutes in each lesson. As a first step in the analysis, transcripts were made of the tapes. Interactions were looked at as chunks of discussion. This is due to the fact that many interactions were short and not completed by an individual speaker. In many cases, a contribution was gradually negotiated between members in the discourse process until the meaning of talk could be constructed. This goes in line with Halliday (1988) in his book on spoken language.

A chunk of students' discussions, in the current study, would be like this:

A: Look at the screen.

B: What about it?

C: What is it?

A: You see how he puts his hand.

C: Ah… right. . .1 thought he puts above the knee.

A: No… no… exactly on the knee.

D: Exactly on the knee

B: Yes... exactly.

B: [imitating the action as shown on the screen] Is it like this?

D: Exactly.

After that, each student's talk was classified into categories. The main categories were off-task and on task talks. The on-task talks were then sub-divided into cognitive, social, and group processing. The main idea of this categorizing was to know whether or not students spent session time on the task (interactions such as: explaining, questioning, elaboration, reasoning and so on) as an indicator of their engagement. Social talks, such as appraisal or encouragement, would indicate how students dealt with each other (interactions like, *You are doing much better now,* or *Good man).* Group processing talks such as taking turns and deciding paths would reveal how smoothly (or not) a group was operating (comments or interactions relates to procedure, taking turns, time and so on, e.g., *Where should we go now?* or *We only have five minutes.).*

The analysis of the transcribed tapes revealed that there was very little off-task talks. In the Arabic language session, off-task talks accounted for only about 5% of all talks. The

remainder of the talks were on-task. An even lower percentage of occurrence of off-task talk was noted in the Islamic studies lesson, where it was about 2%. The following table summarises the result for the off-task and on-task talks.

Table 8.1: Classification of student talk: off-task and on-task

	Off-task (%)	On-task (%)	All talks
Arabic Lesson	5.06	94.94	100%
Islamic Lesson	2.17	97.87	100%

Note: % = percentage of lesson time (60 mins)

8.1.1 On-task talks

The on-task talks in both curricular areas were dominated by cognitively oriented talks. More than two thirds of students' interactions were of this type of talk. The least type of on-task talk, in both subjects, was interactions that dealt with group processing. Social talks accounted for a fifth of all talks in the Islamic studies lesson and a quarter in the Arabic language lesson. These results are summarised in the following table:

Table 8.2: Categories of on-task talks

	Cognitively oriented talks (%)	Socially oriented talks (%)	Group processing talks (%)
Arabic lesson	67.14	24.25	8.71
Islamic lesson	68.05	21.82	10.13

8.2. Findings from Students' Interviews

The interview schedule used with students involved questions about several aspects. Some parts of the interview dealt with students' opinions about their involvements in the actual everyday classroom. Also, they were asked about their prior experience of computer and co-operative learning. Other questions tried to investigate their views about their experience in group work at the computer, including what was good and what was not. In addition, grouping issues were raised. Some other points were also included.

8.2.1 Students' views about themselves in the classroom

The researcher asked the participating students about their involvement in the regular classroom and how they viewed it.

The students' responses revealed considerable frustration. They characterized their status inside the classroom as passive. XX, a student who had never experienced co-operative learning in his past years of schooling, gave the situation like this: *"the classroom here is ultra boring. It would be better if the teacher did not come except (*two teachers*). Only tape recorders come to the class, and we* [students], *in turn, bring other tape recorders to record from the recorder. I was laughing to myself when we started this session. This is because you were asking us to talk to each other and help each other and co-operate with each other while in the classroom, teachers always say to us; Do not talk to your classmate, if you have a question you must only ask me.* Another student, *YY,* who had experienced co-operative learning strategies in the past found it very difficult for him to cope with a situation where the teacher said everything and students just listened to him. He complained about it, saying: *"I hope you do not get*

angry with me for saying this, but I feel that I have lost my freedom. Believe it or not, a teacher was very annoyed because I asked my classmate about a problem. Then he said, "Shut up, you like to talk and disturb the class", and told me he would deduct marks from my grade. For this reason, I hope that teachers will become more flexible about our discussions in the classroom. If they are afraid that we would talk wasting time they could monitor us and deal with time wasters."

Other students did not think about the possibility of other teaching and learning strategies. It was clear that their views of what good teaching should look like were very limited. In fact, they could not imagine the possibility of any method other than teachers telling them about the topic, giving examples, and setting exercises and homework. ZZ, a student who came from a developing country, had never tried co-operative learning and this was the first time he had sat next to a computer. He commented: " *The classroom here is almost the same as the ones I used to attend in the previous years. The teacher talks and we listen and some times he asks us questions. At the end of the class, he gives us the homework We then do the homework that is set and attend exams and pass. I thought this was the only way of learning but yesterday YY told me about their different system."*

On the other hand, a group of students felt things sometimes went well in the classroom, but it was not always like that. This entire group of students was in a class that was being taught by two innovative teachers who tried to get their students to participate. The researcher knows these two teachers and their lively way teaching and attracting students. As a student from this group put it: *"Sometimes I feel tired but, I do not know how, he* [the teacher] *gets me very active in the class. Unfortunately, though, often he starts the boring lecturing way and tells us that we have to get through the curriculum."*

8.2.2 What style students prefer

Students responded to the question of what style they prefer, the individual setting or the co-operative learning style, in various ways but mostly leading to the same conclusion. They agreed that the group work had some impact on their view of working with other students.

Some students were reluctant, at the beginning, to work with others. However, after practising working with other students, they had a different view. TT, a student practising co-operative learning for the first time, said: "*At the beginning, I came to you asking for permission to work by myself individually. But you asked me to try working with other students and said it might help you, and promised me that afterwards you would let me work individually if I still preferred it. Now, I thank God I listened to you. It* [the co-operative work] *was excellent*". Another student who was used to working individually commented: "*I have always been used to working alone and liked to work individually. And I did not think students could work together and did not how they could work together. Now, I love to work with my friends*".

Other students who had not experienced co-operative learning in the past were encouraged to work by the presence of their peers. Their hesitation was removed when they realized that they would not be alone. As KK put it: "*the group work is very useful. At the beginning, I was afraid to work. However, I was very encouraged when you told us that we would work together.*"

On the other hand, a small group of students had good experience of co-operative learning and had positive feelings towards it from the beginning. *YY* said with great enthusiasm: "*I prefer working in groups. See, I come in the afternoons and evenings,*

out of class times, for these sessions, because I like to work with my friends. We help each other, they benefit from me and I benefit from them."

8.2.3. Computers and co-operative learning

Students here were asked to give their opinions of the presence of the computer in their co-operative learning sessions.

Most of the students' responses were similar, as they claimed that they had no experience in co-operative learning, with or without computers. As HH put it: *"I do not know about working in groups without a computer. However, it was useful"*. Also, although they had no past experience with co-operative learning strategies, they felt computers helped them to focus on their work. XX said: *"I had not worked in groups, either with computers or without. But it* [the computer] *was excellent, it was in the centre and we were around it; that helped us to concentrate* ". This concentration aspect made 00, who also had not tried co-operative learning say: *"The computer kept us engaged on our job. It is better to have something to maintain our concentration.*

YY, on the other hand, was not sure about operating the computer and was curious about this, as he said: *"I was afraid that we would face difficulties in working with the computer and we would not be able to operate it. However, when it appeared to be very easy, it helped us a lot."*

8.2.4. Grouping aspect

The participating students were asked about characteristics they considered important in selecting their group members. Students mentioned three characteristics: seriousness, enthusiasm, and politeness, that would make them choose/reject group members.

Seriousness was the major criterion for selection in the students' opinion. As KK put it:

" *The first and the most important criterion for selection of a group mate is seriousness. My group members should be serious so no time wasting could take place."*

Another factor that affected selection was students' enthusiasm to learn. The more enthusiastic he is, the greater chance a student has of being selected by other students. As SS put it: "*he* [the selected student] *should like getting more knowledge. We could help and encourage each other to discover new topics and ideas as what we have done in these sessions."*

Some students felt having a polite colleague would be a good idea in selection. ZZ said:

"He should be the same as our group; which means polite and likes learning and no time wasters."

8.2.5. Relationships with other students

The researcher observed many positive indicators of friendly relationships that took place between students during the co-operative sessions. Then he asked the participating students about their relationships with their group members.

They seemed to become friends, if they had not been so previously, and had a better view of each other. XX said: *"All of them became friends of mine* ". As another student put it: "*I came to know my friends much better. I could now know their ideas. When we navigated the zoo and the house* [in the software], *I came to know their countries not only by name as I used to in the past but also their culture and how they live."*

Students' relationships seemed to extend out of the classroom, as they appeared to help each other there. As one put it: "*You saw that two weeks ago, he,* [a group mate],

was my classmate only. I just knew his name. Yesterday and today he picked me up from home in his car. He has become my friend as well as all the others in our group."

8.2.6. What have students learnt from co-operative learning?

Students were asked to state what benefits they had derived from working co-operatively.

Experimenting and practising talking and speech were a major priority in students' opinions. Apparently they talked much more than they do in the ordinary classroom. *YY,* perhaps exaggerating somewhat, said: *"Look Ali, I came from my country, the United States of America, five months ago. However, I talked this week more than all my talks for the past five months."* This point, having greater chance of verbal interactions, was agreed among all participants.

Some students believed that their group work had extended their realisation of the limited knowledge each person could have which, in turn, helped to make sense of co-operation. XX in a philosophical voice said: *"I learned that a human being individually, cannot know everything in any field. He can only know certain limited things, like any other person in this life. By working with his peers, each one gives the pieces that he knows to them and, at the same time, receives pieces of knowledge from them. And then all of them will rise in their achievement".*

Some other students, after the co-operative sessions ended, displayed an increased self-esteem. As ZZ put it: *"I am very happy with myself now. I realized that I am not the worst student in the class, as I used to think of myself. I saw that I could teach myself and maybe teach others whom I thought were much better than me. Also, I sat at the computer for the first time in my life and succeeded in operating it."*

Students considered that their co-operative work promoted their relationships. The researcher observed that students used the word " friend" in the post session interviews to denote people whom they had previously called "classmate". A student thought the co-operative atmosphere was friendly. PP took pride in the achievement of a group member as it was his own. As he said: *"I felt we were co-operating. Everybody felt happy because he helped his friend. I swear to God, I was very glad when EE succeeded in saying that letter correctly, as if it was me who succeeded."*

Co-operative learning, also, improved students' attitudes to learning as some of them claimed.

One of the indicators of students' motivation towards their work according to Sharan et al (1990), is their involvement in the tasks in question. Motivation can be estimated by the degree of students' involvement, the level of enthusiasm they demonstrate in relation to their task, and their being happy to pay extra time beyond regular class time. All these indicators of positive motivation toward learning activities were observed during the co-operative learning sessions in which students participated. Tables 8.1 and 8.2 show that students were focusing on their lessons even though there was no teacher policing their activities closely. Only a very marginal portion of their interactions was about matters out of the lesson (however, these interactions were associated with positive development of student - student's relationships in the co-operative learning group).

Moreover, students' willingness to devote extra time was very obvious. "Can we spend more time? And " Can I/we come at other times after other groups have finished their sessions? " These two questions were frequently asked by students, showing their enthusiasm and willingness to pay extra effort and time, especially bearing in mind that

the researcher had no choice but to hold these co-operative learning sessions at times which would not upset the normal college hours. Actually, most of the time students came to the co-operative sessions without any complaints. Some of the students expressed their enjoyment of their co-operative learning sessions.

Indicators of students' positive experience

Students in the co-operative learning sessions showed many indicators of enjoying this approach to learning. The researcher used open observations to report his observations. Many indicators of students' interest in working together were apparent. Countless number of smiles, pats on the back, physical interactions (body language), and appraising and appreciation of each other's contributions.

The researcher observed that the computer was the centre of focus for the co-operative group. Also, it appeared to be the trigger of their interactions. For example, in many occasions, students pause the picture on the computer screen and start talking about the relevant subject of the picture.

Students seemed to be relaxed and far from the formal classroom rigid setting. They were free to adjust their chairs to suit their comfort. The whole environment appeared to be friendly. Students used to call the researcher using his first name without his title, which was acceptable to the researcher, yet this is not the trend in Saudi universities.

The researcher observed that the most suitable number of students around the computer was three students. On some occasions, a four-student group was the largest possible. In other cases, the researcher tried a five-student group, but the students at the far edges could not see the computer monitor comfortably.

Although the space available for the researcher to conduct the co-operative learning sessions was less than half of that in an ordinary classroom in the university, he managed to have three co-operative groups (to match the number of computer machines he, personally, borrowed) and still there was sufficient space to accommodate at least four more groups.

Students' co-operation was obvious throughout their co-operative work sessions. For example, the researcher did not ask them to co-operate in operating recording their voices, but students in the middle (students took turns to sit in the middle and operate the mouse) helped their peers in pressing the mouse while another held the microphone.

In some groups, the researcher observed in the early days of co-operative learning sessions that students who were more willing to use the computer were more influential in the group work. However, in the second week, this trend was not observed.

Summary

The analysis of student interactions during computer assisted co-operative learning of Arabic and Islamic Studies revealed that in both subjects, all but a very small percentage of talk was on-task. Some two thirds of this was cognitively oriented, around a quarter was socially oriented, and about 10% dealt with group processing.

When interviewed, students indicated that they found the co-operative lessons interesting and enjoyable; for some, the experience had clearly come as a surprise, as they had not envisaged the possibility of being taught in ways other than the traditional 'chalk and talk' methods. They preferred the co-operative approach and found that they could both help and be helped by other students, and they appreciated seriousness, enthusiasm and politeness as qualities in group members which facilitated their

learning. A noticeable dimension of the impact of co-operative learning was the effect on students' personal relationships. Classmates who had previously been no more than acquaintances developed friendships which extended into areas outside the classroom. Overall, the experience appeared to have enhanced both students' self-esteem, and their respect for and interest in others, as well as leaving them with positive attitudes to learning itself.

This chapter concludes the presentation of the research results. The findings from all dimensions of the research will be discussed further, in the next chapter, in order to draw out their implications.

CHAPTER NINE

DISCUSSION

DISCUSSION

Introduction

The last four chapters have presented the findings from a multi-perspective investigation of the possibility of implementing computer supported co-operative learning in higher education in Saudi Arabia. In this chapter, the main issues will be explored in more depth, by bringing together information and ideas obtained from different stakeholder groups, and setting them in the context of related literature.

The chapter is divided into three main parts. The first covers findings related to the use of computers in general and as an educational tool in higher education, and draws on the teachers' responses to the attitude scale, and administrators' discussion of developments in computerisation at Umm Al-Qura University. In the second section, issues raised with regard to co-operative learning are explained. These include teachers' perceptions of the co-operative learning classroom, their expectations with regard to students' ability to take responsibility for their own learning, training implications, and the importance of administrative support. The third section analyses the conflicting perceptions of the various stakeholder groups, regarding obstacles to improvement, and suggests ways of overcoming the impasse which appears to exist at present.

9.1. Issues Related to the Possible Introduction of Computers

This study has looked at the feasibility of adopting computer supported co-operative learning approaches from three perspectives: teachers' attitudes to computers, students' response to the approach, and administrative issues such as willingness and ability to fund computerisation and provide computer access and training for teachers.

9.1.1. Discussion of Teachers' Attitudes to Computers

If an attempt is to be made to introduce computer supported co-operative learning in Saudi universities, it is obviously important that teachers have positive attitudes to computers and are not anixious about using them. Hence, an attempt has been made in this study to assess teachers' attitudes toward computers and how their attitudes vary with difference in gender, age, university, curriculum area, teaching experience, qualification, computer ownership, and attending computer training.

Teachers' attitudes toward computers

In order to assess teachers' likely acceptance of computers as an aid to co-operative learning, their responses were measured on four attitude scales: Positive Computer Attitudes; Feeling of Intimidation of Using Computers; Usefulness of Computers; and Negative Computer Attitudes. The results presented in Chapter Five show that teachers had generally positive attitudes on all four of these dimensions. The mean score for Positive Computers Attitudes was 29.54 (the possible minimum and maximum scores for the 9 items were 9 and 36 respectively) and that for Usefulness of Computers was 27.76 (10 items, minimum and maximum possible scores 10 and 40 respectively). For the Feeling of Intimidation scale, where the higher means represent more favourable attitude, i.e. less intimidation, the mean score was 27.62 (the possible maximum and minimum for this 10-item scale were 10 and 40 respectively). For the Negative Computer Attitudes scale, where lower means represent favourable attitudes, the mean score was 20.62, based on a scale ranging from 10 to 40.

These findings suggest that teachers' attitudes towards computers in general need not be an obstacle to the introduction of computer supported co-operative learning. Further tests for association between attitude scores and teachers' personal and professional

characteristics were made, to see how a generally positive attitude towards computers distributed throughout the teaching body; this may give some indicators where pockets of resistance may be encountered, or of which teachers may need additional training and support in their teaching.

Generally, teachers' attitudes toward computers were positive.

Age and attitudes toward computers

The results showed that age was not significantly related to three of the four attitude scales used in this study. A significant difference between the four age groups was found to be associated with Computer Negative Attitudes, the trend being towards more negative attitudes with increased age. However, the group of King Saud University did not follow this trend although they constituted the oldest group. It may be that respondents from this university were computer enthusiasts and that other teachers from this university did not bother to respond to the questionnaire. Several studies (Cambre and Cook, 1987; Liou, 1993) found that older people have greater anxiety levels than younger people. Craig (1993-1994) suggested that staff training should be built to help older teachers to overcome computerphobia.

Gender and computer attitudes

Sex difference was significant in only one scale (Computer Negative Attitudes), where more negative attitudes were found among women. On the other hand, male and female teachers perceived the benefits and usefulness of computers for a variety of general and educational purposes, with no significant difference between them. This means that this study is consistent with the literature that suggests there is no significant difference

between males and females in their perceptions of the positive outcomes of computers in education (Woodrow, 1991, 1992; Kay, 1993).

Several studies have shown that females have more negative attitudes toward computers (Liu et al., 1992; Chen, 1997). Other studies have shown no gender difference with regard to negative computer attitudes (Woodrow, 1991, 1992; Kay 1993). In general, literature in the field suggests that females exhibit more, or at most equal, negative attitudes to computers than males. If the researcher had decided to conduct the study's statistical tests at p=.10, there would have been another significant difference in the feeling of intimidation about using computers although this was not significant at the 0.05 level, which the researcher selected as consistent with other studies in this kind. Females seemed to be more intimidated about using computers than males.

Since female teachers realise the potential of computers in enhancing education in general, the job is then to get rid of their negative attitudes to computers or at least reduce them. One of the possible solutions is to train teachers and expose them to some computer applications that might improve their familiarity with the machine and reduce their negative feelings about it. Several studies have found links between reduced computer anxiety and training on simple computer applications (Reed et al. 1993; McInerney et al. 1994; Liu et al. 1992; Green et al., 1995).

Maura and Simonson (1993-1994) argue that the literature suggests that training should not be a condensed training programme; rather they suggest a more relaxed form of training to reach the desired reduction in computer anxiety.

Umm Al-Qura University's efforts in training its staff seemed to concentrate more on the male campus, where there is more space and better facilities. Since the researcher could not, for cultural reasons, visit the women's campus in person, however, this

impression is based on comments by female teachers and needs further verification. However, there have been many developments in expanding the female campus in the last three years, that will help in launching more efforts in the female departments.

University and computer attitudes

There was no significant difference in all four computer attitude scales among teachers from the four universities that participated in this study. The Saudi educational system, in general, is centralised. Recently the Ministry of Higher Education issued new general regulations for universities (MHE, 1994),which will increase consistency across universities in terms of matters such as staffing.

By conducting a cross institutional comparison, this study aimed to get some indications of similarities in teachers' acceptance of innovations generally that could be indicated through their responses to computers. Since the higher educational system is so highly centralised, there is a good chance that if an innovation were successfully adopted in one of the eight Saudi universities, the Ministry of Higher Education would extend the project to the other universities; the similarities of attitudes found in this study would facilitate any such move.

The absence of significant difference in attitudes between the four samples in this study would indicate that teachers from different universities in the Kingdom of Saudi Arabia might have the same attitude toward innovations in general, which means that they might have the same views about co-operative learning, though this would need to be confirmed in a further study.

Curriculum area and computer attitudes

Teachers from different curriculum areas did not score significantly differently on the four computer attitude scales in the current study. Again, this is another indication of similarity that suggests the existence of the same attitudes regarding innovation, in different disciplines.

Qualification and computer attitudes

Qualification did not seem, in the current study, to affect teachers' attitudes to computers; there was no statistically significant relationship between the two variables. Qualification is related to age in Saudi universities. No lecturer can be promoted to assistant Professor unless he or she has obtained a PhD degree. From this fact, one might expect a similar finding for qualification and for age. However, this did not happen in the current study. This might be affected by two factors: one group (the Islamic University) had no Ph.D holders at all, and another group (the King Saud University teachers), who are the oldest group and have the highest percentage of Ph.D holders, seemed disaproportionate to represent computer enthusiasts as they constituted the highest percentage of computers owners (Chapter 5, Table 2). However, this is another indication of similarities which would play a role in the implementation of training progrommes.

Teaching Experience

Teaching experience, also, did not affect teachers' attitudes in the current study. There was no significant difference between teachers classified according to their teaching experience. Although teaching experience is apparently related to age, the results were not matched. The same reason given for qualification may be applied to the teaching experience factor.

Computer ownership and computer attitudes

Teachers' attitudes varied significantly according the factor of computer ownership in three of the four scales. The Usefulness of Computers scale was the only factor on which the significant difference did not appear. Owning computers appeared to affect teachers' attitudes in this study. Teachers who owned computers had more positive attitudes to computers, were less intimidated by using computers, and had less negative attitudes to computers. These results are in line with findings of the literature that suggest more positive attitudes toward computers among individuals owning computers (Chu and Spires, 1991)Umm Al-Qura University has taken a major initiative to facilitate access to computers for its staff. This would allow teachers to practise and get more familiarity with computer applications, which is very important in any effort to adopt computers in the classroom. In addition to facilitating access to computers, the university should encourage teachers to own computers by several means (Becker, 1994).

Attending computer training and computer attitudes

The second important significant difference in computer attitudes was according to the factor of attending computer training. This finding agrees with the literature that suggests computer training courses and programmes play a major role in promoting positive computer attitudes (Handler, 1993; Hope, 1996; Strandberg, 1997). The university's efforts in training programmes should be continuous and should not only concentrate on enrolling large numbers of teachers, but also on the quality and outcomes of such efforts. Several studies suggested that computer training programmes should be extended for a period of time that is needed to promote positive attitudes and to reduce negative computer attitudes and anxiety (Krezek et al., 1996; O'Bannon, 1997).

Ongoing support after training will further help teachers to transfer their new knowledge, skills and attitudes in to their day-to-day practice.

To sum up this section, the findings suggest that computer anxiety would not be a reason for teachers to oppose computer supported co-operative learning, although preliminary training efforts, and follow up support, would clearly be advisable, and particular attention should be paid to the need of older staff, and of women in this regard.

9.1.2. Possibility of Introducing Computers

Interviews with senior staff at Umm Al-Qura University revealed serious plans with regard to introducing computers to the teaching and learning process. The findings from teachers' attitude scales show that teachers have, generally, positive attitudes toward computers. Also, these results revealed that the two major factors affecting teachers' attitudes to computers were computer ownership and attending computer training. The university's efforts with regard to training staff are considerable. "*During this academic year, about 1165 male and female officials will enrol in the advanced complete courses in computers*," the university rector said. This large number indicates the serious attention given to the issue of teacher training on computers. The rector, also stated: "*The university provides the Internet communications and E- mail services to ensure academic communications among all university officials and students and to make available the services of the Internet ...I think that we are in touch with the desire of teaching staff to use computers and related technology after having computer services in the university for all and participating in E-mail and Internet*". Here, the rector's response indicates the university's efforts to offer access to computers for teachers. During the period in which the field work was being carried out, the researcher

observed the growing number of computer terminals in staff offices and the ease of getting connected, free of charge, to the internet through the university server. All these indications show that computers are becoming part of the teaching and learning process. Introducing computers as a tool to support co-operative learning, thus, would be in line with trends in the Saudi universities generally.

In their edited report about research in educational technology, Guzdial and Weingarten (1995) argue that the new model of learning "*is characterized by:*

- *Authentic activities. Activities similar to ones students will eventually participate in or encounter in the working world beyond school. Authentic activities engage and motivate students and encourage deep learning- i.e. the development of analytical and cognitive skills- that can be transferred to new contexts. Technology can provide tools to help students manage and learn from such activities.*

- *Metacognitive learning. Learning where students are actually learning how to learn and can identify when they have not learned critical skills.*

- *Collaborative learning or reciprocal learning. Learning where students use one another as teachers, reviewers and critics....*

- *Apprenticeship learning. Learning where students are supported while learning actively using their own knowledge.*" (p. 6)

Computer aided learning does not lend itself to being measured through experimental design in order to conclude whether it is effective or otherwise, because computers have the potential to change all aspects of the teaching and learning process. "*The successful implementation of information technology, particularly computing, in classrooms changes the whole learning environment. It changes what is being learned, why it is*

learned, how it is learned, how learning resources are accessed, and the communication between students, students and teachers, communication with the outside world, and more...the introduction of computing involves changes to curriculum...to the social arrangements and interactions...to teachers' role..." (Rowe, 1996). The far-reaching repercussions of computerisation suggest that the university needs a comprehensive plan to cope with these changes.

One of the anticipated problems, in the university rector's opinion, was the cost associated with computer technology. In fact, for short term large scale plans to introduce computers, the cost might be a problem. However, computers' costs are decreasing "steadily and sharply". The cost issue was one of the major points that helped to draw more attention to co-operative learning. Many researchers, discussing the evolution of computer supported co-operative learning (Cavalier and Klein, 1998; Mercer, 1994; Hooper, 1992; Seymore, 1994), note that the equation of one computer per one student is not an attainable one, and at the same time, is not desirable. Students, as human beings, have a natural tendency to co-operate with each other. Mehan (1985) noticed that students, when they were left to do the learning tasks, collaborated voluntarily with each other. Nastasi and Clements (1993) found similar findings. Although in their study they asked students working at computers not to interact with other students, they observed that students nonetheless interacted and helped each other co-operatively. The researcher believes that co-operative learning will help to overcome problems of cost, and urges the university to think seriously about it.

Many studies have found negative results associated with individual computer based instruction (Hunt and Alford, 1992), and co-operative learning appeared to be the most appropriate solution. Several researchers found that the benefits of co-operative learning in general appeared to be transferred to computer supported co-operative learning

in general appeared to be transferred to computer supported co-operative learning (Schlecher, 1990; Carrier and Sales, 1987). Johnson et al. (1985) described the disadvantages of the individual learning at computers compared to co-operative learning in several respects. They argued that individualized learning at computers would lead to social isolation, preventing students from getting chances to summarise and explain their understanding which enhances their higher thinking skills. Moreover, they thought individualized learning prevents social modeling, provides less complex feedback than is attainable by peers' feedback, and works against students' natural tendency to co-operate. Students, in the current study, responded positively to the joint work around the computer. On several occasions the computer played the role of a common resource (Cohen, 1991). The researcher observed that students used to pause their programme and start to discuss issues related to it. In such a situation, the computer would be the "trigger" of their elaborated talk (Salomon, 1995). One of the points that students noticed was the role of the computer in maintaining their attention to the task. As one said: "*I had not worked in groups, either with computers or without. But it* [the computer] *was excellent, it was in the centre and we were around it; that helped us to concentrate.*" This claim was, indeed, supported by the researcher's own observations.

9.2. Issues Related to Cooperative Learning

This section addresses issues related to teachers' understanding of the concept of co-operative learning, and the likelihood that they would be able and willing to establish the necessary conditions for this type of learning in their classrooms. It first discusses teachers' opinions about the practicalities of organising co-operative learning (group size, heterogeneous vs. homogenous groups, the need to encourage and reward co-operation, and student training), and consider their views on such requirements as accountability and positive interpersonal dependence. The second issue discussed is

whether teachers see students as capable of taking responsibility for their own learning, and would be willing to transfer responsibility to their students.

9.2.1. Teachers' Perceptions of the Cooperative Classroom

Teachers in general showed understanding that the co-operative classroom would be different from the one with which they are familiar. In contrast to the present situation where students normally sit in rows facing the teacher who delivers information to his/ her generally passive audience (a teacher role as "the sage on the stage"), students will sit in groups, discussing and problem solving together, while the teacher takes more of a supporting, facilitating role. The management of co-operative learning will raise issues regarding group size and composition, as well as how to ensure that co-operation and learning are achieved by all group members.

Group size

One teacher at the Institute of Arabic Language for Non-Arabic Speakers thought the whole class should be one group that consists of 10-15 students. A few other teachers thought the class should be divided into dyads. The majority, however, argued that the best group size would range between 3-6 students.

Although having the whole class as a group is one of the methods suggested in the literature, this idea would be impossible to implement at Umm Al-Qura University and at many other colleges, because of the increasing number of students, associated with increasing teaching loads for teachers.

Moreover, a co-operative/collaborative learning group is, by definition, a group that is small enough to give every member the chance to participate (Millis, 1991). There is no "magic" number suggested by the literature to be the optimum one. However, some

researchers have found that a group of 4-5 members would be preferred (Cohen, 1994; Panitz, 1996; Magel, 1996). They argue that a group of 6, 7, 8, 9 or 10 would not affect the group dynamics, but it would make a problem in participation and dilute the experience for students. 3-member groups were found to result in two working together with the third member isolated. A 2-member group is an ideal group for drill and practice, but for more challenging tasks, the dyad may not have enough resources to accomplish the task and there will be greater stress on the members in any other group size.

In the current study, students were working in three member groups in almost all cases. The space around the computers played a major role in deciding the group size. A group of four was the largest size possible. On occasions when all members of some were present while other groups had missing members, the researcher tried manipulating the group size. It was noticed that a group of five students was not satisfactory due to the lack of space available around computers. It would be possible to have groups of more than four students, but this should be taken into account in designing the setting around the computer. Another observation was about groups of two. There was no session in which a group of two worked for the whole time. This type of group occurred only on occasions when a group member was late (or the other two came earlier than the scheduled time). The researcher observed that the two-student group failed to start. It cannot be said, in such a case, that the dyad does not work, since their failure to start was due to other reasons. The waiting factor may have prevented students from starting, as they no doubt felt they would have to start again when their classmate arrived.

Heterogeneity

Many teachers felt it would be better to have heterogeneous groups, while fewer teachers felt the other way. Some teachers considered heterogeneity to be the trigger of co-operation among students. Others thought ability differences would impede the progress of higher ability students.

This issue has received much attention in the literature on co-operative learning. It has been argued that it encourages mutual exchange among group members (Myeres, 1991; Dembo, 1994). However, only one teacher thought co-operative learning is not a suitable strategy, because he felt students are too heterogeneous. Although most researchers suggest having heterogeneous groups, they warn against their being too heterogeneous, as in such a group, there will be no common ground or language to agree on an issue. Bruffee (1994) explains this through the following example:

"*For example, ask a group composed of otherwise co-operative, well-disposed faculty members from a half-dozen different disciplines (say, biology, art, mathematics, English Literature, cultural anthropology, and history) to arrive at a consensus on the definition and proper use of the word "natural" and the only resulting agreement is likely to be an agreement to disagree.*" (p.33).

This issue, of excessive heterogeneity, leads to a discussion of a concern raised by some teachers of the institute in the interviews, namely, that higher ability students would dominate the co-operative learning activity. This situation is what Cohen (1994) called the "expert status" and she suggested that the teacher should worry about it, even if the group is "on the right track on the assignment". Dembo and McAuliffe (1987) noticed that students who are perceived to be of high ability were more active and influential in co-operative groups on the basis of being perceived as "high ability" students and not on

the basis of real differences. Cohen (1994) draws attention to the variety of abilities. She argues that a good reader is not necessarily better than other group members in different areas, and there will be a problem if that good reader is assumed to be better in everything.

On the other hand, some teachers worried about the lower ability students and their participation in the co-operative group activity, as these teachers thought that these students will be left out of the group activity. Some researchers suggested that dividing the task between group members would solve this problem (Spurlin et al., 1984). Cohen (1994) argues that there are better ways to cure it. One way is what she called "expectation training", where the low ability student takes the expert role in an area which he or she is better than others. The diversity factor in the current study played a positive role in that students came from different parts of the globe. Their experiences were not similar, which meant each one of them had something to share with others on many occasions during their co-operative work at the computer.

Some teachers, also, suggested transferring disturbing students from one group to another, in order to maintain good group dynamics. Teachers should try to let students resolve this problem. However, teachers could observe the troublemakers and try to assign them separately to groups that would help them to avoid such behaviours (Johnson et al. 1993).

Grouping the co-operative learning group according to the friendship factor was another point, in teachers' opinion, in creating co-operation. However, this approach is not favoured by researchers in co-operative learning. Although the friendship factor would help in group dynamics and the needed period to "get together", the risk exists that in this type of group, students would choose others who are similar to them in academic level or nationality (Johnson et al. 1993). Also, in grouping according to friendship, the

mood may be for play rather than learning (Cohen, 1994), and friends might paper difficulties over rather than resolving them(Bruffee, 1993). In addition, there is a danger that socially isolated students will not be selected by any group (Johnson, et al. 1993).

Some teachers thought having a group leader would help to maintain the productive work of the group. This view agrees with Boschee's (1991). He argues that this issue should be considered, and claims *that "the students chosen most often are natural choices as group leaders*". However, he suggested, if possible, giving all group members the chance to be leaders. This might be convenient if the task requires some division of roles, such as leader, recorder, writer, and so on. Although Johnson et al. (1993) thought a group leader would help the teacher in maintaining group processing, they insisted that leadership should be rotated between students. However, having a group leader may lead to the "expert status" that Cohen (1994) warned against. The basic aim of co-operative learning is to have equity (Kohn, 1992). If teachers applied "the group leader" in all situations, it might affect other students who perform other roles in the co-operative group. In the experiment in co-operative learning carried out by the researcher, there were no nominated leaders. Students took turns to sit in the centre of the group and use the computer mouse.

In fact, students seemed to pay more attention to social skills rather than academic ability. After their co-operative sessions, they argued that their criteria for selection of group members include seriousness, enthusiasm to learn, politeness, encouraging, and helping (see Chapter Eight, Section 8.2.4). This point would require more investigation, however, since there was no prior information on students' levels of achievement. As a final point, it might be noted that heterogeneity can cover many aspects, in addition to academic ability; ethnicity, for example. In practice, it is unlikely that co-operative

learning groups can ever be truly homogeneous, but teachers who favour homogeneity will select groups according to what they see as a relevant criteria.

Duration of the Cooperative Group

Many teachers preferred the group to last for the whole academic term. As "Adil" put it, "*it should last for at least one academic semester. This would build good relationships between the group members.*" It is a good idea to have the group working for quite a long time, as this would allow them to build group norms. But, on the other hand, a major goal of co-operative learning is to enhance student-student relations, which implies that each student should have worked co-operatively with every student in the classroom. Johnson et al. (1993) concluded that the duration of a co-operative learning group might vary from one lesson to several weeks, but, ultimately, the student should have a chance to work with all his peers.

Encouragement

The first thing to do, in teachers' opinions, to make students co-operate, is to give encouragement. They thought encouraging and explaining the importance and usefulness of co-operation would make a positive impact on them. " S*tudents, actually, respond positively to encouragement. Encouraging words cost nothing but have a very great value,*" "Sara" argued. Johnson et al. (1993) believed that teachers should start by illustrating the fact that they will be better students if they have co-operative skills. This indicates teachers' awareness of the importance of encouragement. Students' responses to the researcher's encouragement, in this study, were very positive. Helping, encouragement, and appraising behaviours occurred frequently during their co-operative sessions. Thus, encouragement of appropriate behaviours by the teacher is likely to

enhance the positive outcomes of co-operative learning for students, and teachers evidently recognized this.

Rewards

The overwhelming majority of teachers suggested that incentives would provide the external motivation that encourages students to work co-operatively. They suggested several ways of rewarding, such as marks and books. In fact, several applications of co-operative learning are based on incentive structures. Advocators of incentives consider them as the cornerstone of any co-operative activity. They claim that the incentive structure motivates students to help and encourage their group members to attain their personal goal, which could not be attained unless the group work is successful (Johnson and Johnson, 1992, Slavin, 1995). These researchers believe that the positive effects of co-operative learning on achievement are associated with applying group rewards (Slavin, 1995). Other researchers, from a different perspective, are concerned about team-building training activities in order to prepare students for co-operative learning. Their argument is that students with team spirit will help each other in the co-operative group because they care about the group and this is an incentive itself, as well as a reward, depending on the nature of the task. Cohen (1994) argued:

"*The effectiveness of group rewards does not mean that it is impossible to hold individuals accountable... Group rewards are more important for the kinds of collective or collaborative seatwork tasks... Group rewards are unnecessary for achievement when using the equal exchange model, where students are motivated to complete a challenging and interesting group task that requires everyone's contribution for a good outcome*,"(p.67). This would make the group "*to experience a highly rewarding task through co-operation*,"(p.68). Having a challenging and attractive lesson was, according

to Hamad (see teachers' interviews), a way to attract and motivate students to focus on the task.

On the other hand, some researchers, considering co-operative learning from the developmental perspective, do not favour rewards. The critical element, in their views, is the student having the chance to interact on a learning task, in which students argue, discuss, elaborate, and see another view or idea. Thus, they reject external incentives since "*there is no compelling reason to believe that such inducements are an important ingredient in peer learning*"(Damon, 1984, p 337).

Although many teachers suggested incentives, students, in this study, were not offered rewards. In fact, students seemed to be very enthusiastic to learn in co-operative groups. It seemed that they considered a better learning situation as its own reward, reflected in student "YY"'s comments on his willingness to attend the extra classes, because they were so enjoyable. As he put it, "*I prefer working in groups. See, I come in the afternoons and evenings, out of class times, for these sessions, because I like to work with my friends. We help each other, they benefit from me and I benefit from them.*"

Training students on cooperation and group process

The majority of teachers considered training students on co-operation and group process as necessary to make students work co-operatively, in order to have successful implementation of co-operative learning. A teacher representing this group said: " *Students have to be aware of how they progress in their collective work. Otherwise, they might go out of time running in a ... circle.*" On the other hand, some other teachers did not have the same view. As a teacher said: " *Since the teacher is present and follows all groups in his classroom, students will face no problems in doing their co-operative work. I do not believe that we need to train students on group processing, it will occur*

naturally with time." Unfortunately, group processing does not occur naturally. Johnson et al. (1993) claim that the effectiveness of the co-operative learning group is affected by the group processing. Group processing involves group members maintaining good work relations, facilitating social skills learning, feedback about members' contribution to the group work, using higher order thinking skills in evaluation of their thinking and progress, and celebrating group success (Johnson et al. 1993). It should be noted, however, that due to the simple nature of the learning task involved in the co-operative sessions conducted in the current study, no specific training on group process was given, but the students were given an experiential exercise demonstrating the usefulness of the co-operative approach. Observations showed that students were already aware of group processing, and some of their talk was used for this purpose.

Accountability

Teachers in the interviews had discussed another basic element of co-operative learning: accountability. For example, "Adil" indicated that the group will be rewarded for their group outcomes and, at the same time, individuals will be held accountable, saying: " *It is the other side of the coin. If they have incentives for their work, they have to have individual accountability*".

"Sami" insisted, " *Students may enjoy sitting together doing nothing. Sometimes they do not care about incentives for any reason. This implies that this type of student will not participate seriously in any form of co-operative work.*"

" *Having individual tests is very important to know what each member in a group has gained from the group discussions. Without this method teachers cannot know the performance level of any member in the group*" "Emad" reported.

Accountability is, indeed, crucial to co-operative learning. Hooper (1992) argued that when the individual efforts are highlighted, the group achievement is likely to be higher. Individual accountability ensures that students try to master the activity they are doing (Kagan and Kagan, 1994). Teachers can apply several methods to apply accountability to the group or individuals. The co-operative learning group is accountable as a group for the performance of its members. As the group is aware that rewards are based on their average performance, they would help each member in the group to improve their performance (Hooper, 1992, Slavin, 1995). Individual accountability, on the other hand, is usually based on individual tests (Hooper, 1992). Accountability is an important criterion for successful co-operative learning (see Chapter 3) and teachers clearly recognized the need to take steps to ensure it.

Positive Interpersonal Interdependence

Teachers, in the interviews, did not use the term "positive interpersonal interdependence". However, the issue was raised in other words. "*I am sure that many students will only depend on their peers to do the tasks. And if every student has to submit an individual paper they will be waiting for their friend's paper to copy it*", "Abdullah" said. He claimed, as some other teachers did, that their fears of this negative interdependence prevented them from trying any sort of group work. Positive interpersonal dependence is considered to be crucial in successful implementation of co-operative learning and a basic element. Lack of genuine interpersonal interdependence would lead to failure in attaining the desirable outcomes of co-operative learning. Salomon (1995) noted through his experience with co-operative learning that not every co-operative team was successful. A major reason for that, he argues, is lack of positive interpersonal dependence. Johnson et al. (1993) argued that teachers could promote positive interpersonal dependence among group members through dividing and rotating

roles. It may also be argued that positive interpersonal interdependence is promoted in computer supported co-operative learning, as the computer provides "resource interdependence" (Cohen, 1991). Support for this view was found in the behaviours and opinions of students in this study (see Chapter 8, p 7). The computer provided resource interdependence. For example, it was observed that during the experimental sessions, one student in a group would operate the mouse and another hold the microphone, which facilitated co-operative work.

Training students on social skills

Most teachers believed that co-operative learning requires students to be well-trained on group work. If students do not have the required group skills, the positive outcomes may turn to be negative ones. As "Nizar" put it, "*Without genuine group processing knowledge among students they would turn the group work to a total mess instead of a co-operative work. One should expect fights between them if they are not well trained on how to process the group work.*"

This indicates teachers' awareness of small group or collaborative skills. Talmage et al. (1984) argued that students learning to react in new behaviour patterns different from those in the traditional classroom, is a requirement for effective co-operative learning. Several studies have indicated the importance of training students on co-operation. The aim of such training is to promote positive interpersonal dependence, accountability, and common goals (Hooper, 1998, Hooper and Hannafin, 1991). Lincoln (1995) argued that if the goal is to have successful group work, co-operation skills have to be the first thing to master. Student training is a must if the teacher wants students to work co-operatively. Enright and McClosky (1988) believed that "*students will not work well in co-operative groups without being given the prerequisite skills, practice and experience*

in using those skills," (p.243). Situations in co-operative learning imply that " *the students will need to be taught specific skills for discussion and dealing with each other. These are not an automatic consequence of co-operative learning. Many students have no strategies for dealing with disagreement and conflict other than physical or verbal assault.*" (Cohen, 1994, p.40). In the current study, students received training in co-operation before starting the co-operative sessions. Students were asked to reach consensus before attempting a group question or answer, to reinforce the common group goal. Then, they progressed smoothly with their co-operative activities and their concentration on the task was noticed. Teachers should consider training students in social skills.

Group competition

Some male teachers suggested competition between groups in order to encourage co-operation between students. In fact, rewarding groups implies a degree of intergroup competition. It is a critical issue that needs to be explored. One could argue that group competition would lead to two contradictory results. It may enhance intragroup coherence and co-operation, on the one hand. On the other hand, a competitive environment could have negative outcomes for the class as a whole. So, in this study competition was avoided and the environment was clearly friendly.

Clarifying the group goal

Many teachers thought clarifying the group goal would be important to make students work well on co-operative learning tasks. They emphasised the importance of the group goal as students need to know what they are expected to do. Clarifying the goal of learning helps students to focus on the relevant concepts and information as well as

organising what they already know about them (Johnson et al., 1993). In such cases, students know their target and would be able to choose the best way to reach it.

9.2.2. Students' responsibility for their own learning

The introduction of co-operative learning places responsibility on students for their own learning. The feasibility of the approach will therefore depend to a large extent on whether teachers are willing to relinquish some of their traditional direct control and give more responsibility to their students, and on students' maturity to accept that responsibility.

The comment, "students at the university level should be responsible for their own learning" was frequently made in teachers' interviews. This reflects a common theoretical belief about learning at this level in Saudi Arabia as seen by many academic writers writing in newspapers and magazines (Al-Marifah, March 2000). However, it seems that in practice, students were not given the chance to take such responsibility, for various reasons.

An interesting point, highlighted by two young teachers of Islamic studies, was that these studies have followed a method through the last fourteen centuries, and should not be changed. "Mostafa" claimed that "*Islamic studies have a holy status and it should not be touched* ". This view, in fact, contradicts what the same two teachers had just said about students' responsibility for their own learning. Also, it totally disagrees with another view from older Islamic studies teachers. These teachers argued that from the early beginning of Islam, learners were held responsible for what they learned, after mastering the key concepts and basics of their subject of interest. A further interview was conducted with Dr. Bazmool, a member of the Faculty of Islamic Studies and author of many Islamic books, to discuss this issue. He stated, "*I do agree that there are*

certain issues that must not be challenged ... but learners should be completely aware why they should not challenge them. In other cases, learners, once they are capable, should take the responsibility for their own learning. I believe that preventing students' from being active will have undesirable effects, which we already have."

Thus, Islamic thinking and education do not necessarily require students to be passive recipients of information, and an Islamic environment would not necessarily inhibit co-operative learning. At the same time, in the Islamic educational practice, transmission of knowledge is not always criticised and total responsibility is not offered to students without pre-requisites. Abdullah (1985) believed that learners differ in their needs, abilities, and perceptions which means that each learner should be treated in an appropriate way. He claimed that transmission, for example, may be very essential at some stages for learners as they might not perceive the wisdom behind every action they do or see. Abdullah's argument may be illustrated by an example. If there is a student in a chemical laboratory, it is essential to explain some precautions to be taken regarding dangerous materials or mixtures. The situation would be fatal if this learner was left to deal with dangerous elements without prior knowledge. After good practice, the student could start building more knowledge and discoveries about chemical reactions by him/herself. Students at the later stage may need more freedom to get a better understanding, while, at the beginning, they would require more attention from their teacher and less margin of freedom. Furthermore, "blind imitating" is not a way of acquiring knowledge in the Islamic context, which could be seen in many verses of the Quran. This would indicate that teachers should pay more attention to the nature of the knowledge they teach in order to convey its message. It also suggest that Islamic educational values, properly understood, may support co-operative learning.

The tendency for students to be passive agents in the classroom may have less to do with Islamic tradition, than with the attitudes and practices of teachers. Although almost all teachers claimed to be dissatisfied with their students' performance, some teachers thought it was attributable to teachers and the methods they apply in the classroom. Such teachers thought that their students are not less able than any other students, but the methods used in the classroom hindered them. This view was expressed by the administrator, Dr. Al-Saleh, "[T]*eachers generally have the same [traditional] view about the student as a person who cannot stand to take the responsibility for his or her own learning*". He added, "*Our students are the same as any other students in the world. They are not less capable. I might agree that they are used to a certain traditional treatment in the learning process, but I strongly believe that if they were given the chance and encouraged to be active learners they will surprise everyone.*" Similar views were expressed by some teachers' views. As "Mona" argued, " *I admit that students' level is low academically but I never blame my girls. They are victims of teachers who do not do their job properly*". Moreover, many students agreed that they were not given the chance to participate in the classroom as they would like to do.

There were some teachers who thought co-operative learning would only be suitable for applied subjects rather than theoretical ones. " *I do not think it is applicable in religious or linguistic subjects. It could only be applied in engineering or laboratory courses,*" a teacher said. However, co-operative learning has been proved to be applicable in a variety of curriculum areas. Many studies in the literature illustrated its effectiveness in language arts, mathematics, accounting, and so on as well as in engineering (Johnson et al., 1993; Magel, 1998).

Another group of teachers felt it hard to "let go" with regard to students' taking the responsibility for their own learning. Dr. Al-Saleh understood some teachers' opinion

about this point, as he commented, "*Teachers, for a long time, have used a particular traditional method which they are familiar with. I know and understand it is very difficult for teachers to change their traditional way of delivering information and knowledge to their students, but they have to do so.*" One teacher, "Emad" believed the same about teachers being accustomed to traditional method and thought there should be something to encourage them to change. As he stated: "*The teacher now relies mostly on the lecturing method. He might use his notes for years without any change. It is an easy task for him to do so again and again. In order to persuade him to change to something different, one has to try rewarding him for changes*". The "letting go" issue has to be given consideration by teachers if they plan to implement co-operative learning. They "must learn to "let go" and become facilitators so that autonomous teamwork can develop in the groups," (Barak and Maymon, 1998). Teachers, after delegating some of their authority to their students, realise the advantages of letting students take over some responsibility from teachers. Cohen (1994) presented an example:

"*Question: What is your most important insight about teaching that you wish you had known during your first two years of teaching?*

Answer: To let kids do more and me do less. This has been a hard lesson to learn over the years. I use a lot of co-operative learning, hands-on activities, and inquiry in the class and it was difficult for me to learn to step back and let all happen. (Paul Martini, Woodside High School Science teacher, Woodside, California)" (p.103)

This reminds the researcher of what another teacher, "Laila", said, " *it is too hard to let a student be responsible for his learning*". Teachers have to overcome the fear of losing the authority in the class. Actually, they are the people who give the authority to others in the classroom context (Cohen, 1994).

In the traditional classroom, a teacher faces students sitting in rows. The teacher talks for almost all the time, while students slavishly write what they hear and very few attempts are made by students to ask questions or answer questions asked by their teacher. The flow of information is in one direction, transmitted from the teacher to the students. In the rapidly changing world of today, teachers cannot offer everything to students. This method of transmitting knowledge would lead to losing the desirable outcomes of teaching and learning. "*The knowledge that the student acquires is less important than learning to learn*" (Brown and McCartney, 1998). Thus, in contrast to the traditional method, teachers should prepare their students for transformational roles where:

> *"Learning is seen as a personal, reflective and transformative process, in which the teacher's work is construed as facilitating students' abilities to integrate ideas, experiences, and points of view into something new. When applied in the context of schooling, this view of learning demands changes in deeply held beliefs about the form of classroom activities, the respective roles of teachers and students, the goal of education, the very concept of knowledge and closely related to positions on student successes and means to ensure success"*(Dwyer, 1996, p.16).

On the other hand, the majority of teachers believed that students have to have the key concepts and the basics before they can be given the responsibility for their own learning, in line with Rockwood's (1995) comment that "*Once students become reasonably conversant, they are ready for collaboration, ready to discuss and assess,*".

Several reasons could be suggested why teachers' beliefs about letting students be responsible for their learning seem to be more theoretical than implemented in practice. Some teachers, for example, argued that students should be responsible, and, at the same time, do not give students the chance to do so. One teacher claimed that he had a bad experience with co-operative learning, which led him to abandon applying it in his classroom, although he still believed that students should be more active in constructing

knowledge. The University Rector and his Vice drew attention to the issue to give teachers the chance of seeing other strategies in order to improve their performance. Sometimes the contradiction between beliefs and practice may be due to lack of knowledge about other methods, or some bad experience, which deters teachers from implementing a new method (Harste and Bruke, 1977).

It is clear that teachers' beliefs play a major role in the change and improvement process. However, they are not the only factor. Teachers who want to adopt an innovation have to be aware of it and the rationale behind it, to be able succeed in implementation. Richardson et al. (1991), who conducted a study about the relationships between teachers' beliefs and their practice in the classroom, argued that merely focusing on beliefs would not be enough. As they put it,

> *"[F]ocusing simply on beliefs or behaviors in a staff development process may not lead to authentic change. We saw several instances of teachers trying to use a practice, such as activating background knowledge, but the attempts were weak and ineffectual. These were teachers who, when interviewed, did not express an understanding of the supporting theory. Alternatively, we talked with teachers who were developing different ways of thinking about the teaching of reading, but did not know the practice that would allow them to act upon those beliefs,"* (p, 579).

They then drew conclusions about features to be included in a staff development programme in order to reach the desired outcomes:

> *"One concludes, then, that genuine change will come about when teachers think differently about what is going on in their classrooms, and are provided with the practice to match the different ways of thinking. The provision of practice without theory may lead to misimplementation or no implementation at all, unless teachers' beliefs are congruent with the theoretical assumptions of the practice. Further, programs should weave three forms of knowledge together: teachers' background theories; beliefs and understanding of the teaching and reading process; theoretical frameworks and empirical premises as derived from current research; and alternative practices that instantiate both teachers' beliefs and research knowledge,"* (p, 579).

There was a group of teachers who thought co-operative learning would not be feasible because they saw students as being passive in the classroom and making no effort to be active. As "Arwa" said: " *I often asked girls to prepare for the lesson beforehand to get a chance of interaction, but almost always they do not do so*". The same view was mentioned by her colleague who did not expect students to attempt off-task talks. Also, it was frequently complained that students are passive and need to be spoon fed. These views show a low estimation of students' ability to be responsible for their learning. In contrast, there were others who valued students more highly, and tried to find excuses for students being in this situation. Dr. Al-Saleh thought that the way students have been treated for a long time would, with no doubt, affect their participation and involvement in the classroom. He also believed that students will perform well if treated appropriately. He then gave an example to support his claim, by noting that students evaluate as effective teachers, those who ask them to be active learners, which indicates that students appreciate teachers who treat them as responsible learners.

"Barakat", who initially thought that co-operative learning would not be suitable for students, attended to observe students activities in one of the co-operative learning sessions. He saw his students working together, then commented, "[N]*ow, I think what we were talking about last week [*when the researcher interviewed him*] would work nicely here. They [students] were highly engaged. I thought they will not respond well to group learning. Look at this student [*he said the student's name*], he was talking without hesitation to his peers. I would spend ages to get him to speak a single word in my class, and here he is talkative*." This is another indication that students need to be given the chance to improve themselves and activate their participation in the classroom.

Islamic thought, educational theory, and the responses of students to the co-operative learning sessions all favour students being given responsibility for their own learning. Some teachers doubted whether students could take such responsibility, but apparently had never been really given them chance to prove themselves. Given the negative outcomes observed by teachers under the current system, it may be suggested that it would be worth moving towards a more active approach to student learning, to investigate the outcome.

Students might reject taking responsibility

One of the problems that teachers anticipated if co-operative learning methods were adopted in their classrooms was related to the students' reaction to it. Students have been accustomed to the lecture-based method and being dependent on their teachers in almost everything related to their study, from their earlier stages of schooling. This would, in Dr Al-Saleh's opinion, have some effects on students. Woods (1994) notices that students go through some or all the steps of trauma and grief when asked to take responsibility for their own learning. These steps involve **shock** as students do not believe they have been left to do something themselves, **denial** where students think they might ignore it without care, **strong emotions** as some students may drop out of the course or complain to heads, **resistance and withdrawal** when some students resist performing even if this leads to failure in the course, **surrender and acceptance** where some students would not agree with the idea but they will give it a try, **struggle and exploration** when some students see others are getting on well with it and think of ways of enabling them to get it, **return of confidence** when students find themselves succeeding with the method, and finally, **integration and success**. This would indicate that another big task for teachers is to support their students through this significant shift, from being passive and dependent to being active learners. In this study, no

evidence was seen of students experiencing shock or other difficulty with being required to be more active, responsible learners; in fact, the response was very positive, although further research on this, in the actual classroom, would be needed.

9.2.3. Teachers' training on cooperative learning

The training issue was one of the points highlighted by teachers as a condition for successful implementation of co-operative learning. Teachers believed that introducing co-operative learning will be associated with many changes in the teacher's role. As Abdallh put it, "*The teacher will not be the normal lecturer any more. Teachers will perform different activities in the co-operative learning classroom*". "Adil" described some activities performed by teachers by " *frequently passing by each group. Sure, the teacher will be busy, but it is the way to guarantee that students are doing what they are supposed to do*".

It is true. Circles of learners interacting with their group members and perhaps performing different tasks would, inevitably, generate an unusual situation in comparison with the traditional classroom. Teachers will be asked to perform many functions in the co-operative learning classroom. Sharan (1994) listed nine functions that are important in order to have a co-operative classroom, saying that teachers would be required to:

1- Conceive of the classroom as a system of small groups as the functional learning units;

2- Redesign curricular materials to be appropriate for group-centered learning that requires co-operation instead of being aimed exclusively at individuals;

3- Identify and locate a wide variety of resources for learning beyond textbook-related assignments;

4- Involve student groups in planning their topics of study and the process of their work;

5- Monitor groups to assure free exchange of information, mutual helping, and maximum participation by all members within the group;

6- Help groups to reflect on the interactions among their members and to receive feedback from one another on their performance as group members, in order to enable the group to develop and become more congenial and effective;

7- Select the co-operative learning methods most appropriate for the curricular materials to be studied;

8- Combine or integrate two or more methods as circumstances require to afford students the best possible means for pursuing the study of subjects at hand;

9- Advise student groups on selection of creative means for organizing and presenting their work to their peers and to the teacher for evaluation. (p.346)

These various expanded functions and roles that teachers should perform in their co-operative learning classrooms are not, in general, found naturally in teachers who are exposed for long periods of time to their traditional role. It must therefore be understood by administrators in the university that, if co-operative learning is implemented, teachers will need training and support to work in new ways. It would be unwise to expect teachers to perform all or some of these functions without adequate training on co-operative learning. Training on an innovation such as co-operative

learning plays a crucial role in the success of the implementation and on students' outcomes.

To illustrate the importance of teacher training, Roy (1998) described what happened when the "new math" was in its early stages:

> *"When the 1970s reform in math curriculum had a negative effect on students' test scores, many felt it was because the underlying assumptions of the new math were wrong. However, a math specialist asserted that there was nothing wrong with the new math program; what had been wrong was the inadequate training ... Early reviews of the implementation of co-operative learning suggest this innovation might be following the same pathway as new math."* (p. 79)

The findings from administrators and students suggested that teachers were stuck with traditional teaching methods (e.g. lecture, rote learning) and showed little inclination to attempt alternatives. No-one would expect that teachers, who, for a long time, have been familiar with a single teaching method, would implement a new one successfully. Gilbert (1996) argued:

> *"It is unrealistic to expect any human being to replace –quickly, easily, and without help – habitual behaviors based on years of observing others who have used the same (old) teaching model"* (p……)

The administration should therefore consider teachers' need for support when introducing new approaches.

Teachers need to have a thorough understanding of several approaches since "*they soon will be responsible for orchestrating a much wider array of experiences for students than those that now exist ... more emphasis will be placed on their skills in facilitating and coordinating learning experiences for individuals and groups of students*" (Hawkins, 1996, p.23). This, again, highlights the need for training.

Co-operative learning is not a simple gathering of students. Teachers have to prepare the situation for co-operation to take place through variety of approaches. Kagan and Kagan (1998) explains that:

> *"Simply placing students in a group and telling them to work together on some curriculum problem without providing a structure for the students to work within is group work. It does not ensure positive interdependence or individual accountability and does not necessarily result in equal participation and simultaneous interaction"* (p. 112)

Well trained teachers are a condition of successful co-operative learning. Sharan and Shachar (1988) pointed out that co-operative learning's high positive outcomes depend on well-trained teachers receiving in-service and follow-up training over an extended period. Implementation of a complex approach such as co-operative learning needs careful attention to be given to identifying what should be included in training programmes.

There are several methods of co-operative learning, varying from simple to complex. This would result in several approaches to training (Laton et al. 1998). Having only one approach would not suit all teachers, especially at the university level (Brody and Davidson, 1998). However, there are certain components that any training programme should include (Bruffee, 1993; Cohen, 1994, Rolheiser and Stevahn, 1998; Roy, 1998; Ellis, 1998). These principles include:

- Theoretical understanding of the innovation.
- Living the experience of co-operative learning through
- Observed real classroom implementation of co-operative learning lessons
- Creating collaborative teams among teachers

Attention is drawn to the importance of conceptual understanding because it would not be enough to know implementation procedures. It would be the same as "*the long-*

standing concern in education about students who can perform a task without really understanding it" (Meloth and Deering, 1999). Conceptual understanding is very important. Teachers complain when students memorise something without understanding it. In the same way, teachers should not attempt to implement a new approach without a proper understanding of its aims and theoretical underpinings. Several studies suggest the use of a co-operative approach to teacher training programmes, in which teachers live a real experience of co-operation. Through such staff development programmes, this experience would enrich their thinking about co-operative learning (Richardson, 1990, Good et al. 1991). Practical experience of co-operation, in training courses, would reinforce what is learned theoretically.

The ultimate goal of an innovation is enhancing students' learning. Joyce et al. (1993) argue that this goal implies that teachers have to reach the executive control level, which is "*understanding the purpose and rationale of the skill and knowing how to adapt it to students, apply it to subject matter, modify or create instructional materials, organize students to use it, and blend it with other instructional approaches to develop a smooth and powerful whole*". Achieving this executive control level should be a main aim of training programmes.

However, reaching this level is not easy to attain, but incremental implementation would solve many problems with regard to training issues.

Interviews with senior administrators of the university revealed that the university is strongly committed to staff training and development. This would be a great opportunity, bearing in mind that, up to now, the university training programmes for teachers have not been outlined, to introduce co-operative principles in the programmes. Three steps have to be considered to conduct such a programme. These steps include the *pre-training* stage in which preparing for training takes place by creating the situation

for successful implementation; *conducting training* sessions that include both the theoretical framework and actual procedures of co-operative learning; and *post-training*, whereby support would be provided for transfer of co-operative learning to classroom experience as well as long-term maintenance of its use (Johnson and Johnson, 1998). The university could benefit from the experience of others in developing training. Recommendations for such programmes will be found in the next chapter.

The importance of collegial cooperation

Collegial co-operation is an important issue. Administrators can do a certain amount to support co-operative learning, but teachers also can and should support each other and share ideas and experiences. Many researchers argue that teachers' co-operation is central in implementing co-operative learning. Sharan (1994) believes that one of the functions that a teacher should perform is participating in teams of teachers planning and implementing co-operative learning in their classes. Kwo (1998) argues that "*Professional development requires time for teaching staff to engage in collective thinking, not just on existing experiences, but also about our capacity for improving practice*,"(p.15). A complex approach like co-operative learning requires deep thinking from teachers implementing it in their classroom. Designing a co-operative lesson is a challenging task that would engage teachers in creative discussions. Such open discussions will give participating teachers a very valuable opportunity for sharing ideas and thoughts about the different aspects related to their implementation of co-operative learning. They could use each other' approaches to implementation, negotiating associated problems such as dealing with problematic students, inspiring group dynamics, and so on. Al-Qura University staff and, hence, students would benefit greatly from such co-operation.

Interestingly, some teachers pointed to the issue of collegial co-operation and the role it could play in promoting implementation, especially if formal training was not possible. As "Manal" put it, "[T]*raining circles are very useful in every aspect. But if they do not exist, it is, in my opinion, possible for teachers to have self teaching and training in teams, bearing in mind it is the way we ask students to do things.*" This is a good indication of teachers' willingness to co-operate and work in teams, in an environment that is perceived to be quite individualistic as Dr. Al-Saleh argued. Another indication of this individuality was in "Noora's" comment on co-operation between students. As she said: " *I can see no need to tell students about the concept of co-operation. Actually we as teachers learn from them how to co-operate*".

One of the positive effects of co-operative learning, and a reason in support of its introduction, is in improving the whole environment of the educational institution (Carroll, 1991; Sapon-Shevin and Schniedwind, 1992). Evidence of beneficial effects on collegial relations was observed by the researcher during this study, for example, certain teachers were very enthusiastic about the approach and engaged the researcher in discussions as to how they could implement it. One suggestion that emerged during these discussions was that it might be helpful, when experimenting with a new teaching method, to find a colleague(s) with similar interest, to share ideas and offer support. Some time later, when the researcher made a return visit to the university, the same teachers told him they had started to sit in each other's classes to give feedback and exchange ideas. Co-operation of this kind, in the researcher's experience, is unprecedented in this university context. More such efforts are needed by administrators and teachers, together or separately, to introduce co-operation to improve the educational process.

Teachers and Change

Hord et al. (1987) suggested a model of change in teachers' practice. This model consists of seven stages: **awareness** as the starting point; **informational** as the teacher wants to know more; **personal** as the teacher wants to know how the new practice would affect him or her; **management** as the teacher thinks about organizing; **consequence** such as on students; **collaboration** as the teacher shares ideas with colleagues; and finally **refocusing** as the teacher is confident. In fact, not every teacher needs to go through all these stages. Some teachers may jump one or more stages where some other teachers would go through all of them. However, all teachers need support throughout the change process.

Introducing computer supported co-operative learning implies change. It is difficult and will not happen overnight. Therefore, sustained support for the change effort will be needed from administrators, in terms of welcoming the change, promoting it, funding it. and providing necessary training. These issues are addressed in the next section.

9.2.4. The administrative support issue

Teachers' views about the administrative support issue were convergent . " *Any project or any idea, if it cannot rely on administrative support, this project or idea will not exist,*" "Jamal" reported. Many trials of introducing innovations to schools failed due to lack of support. Means et al. (1993) commented on failed trials of innovations:

"*We have learned that implementation without thoughtful planning or sustained support is nearly always futile*" (p.2).

Another point is related to several aspects discussed in this study illustrating the importance of administrative support. There is a need to have continuous support to

encourage teachers to optimize their use of innovations. Yocam and Wilmore (1994) illustrated that

"*Without the technical, organizational and social support... teachers rarely use the technology for more than traditional drill and practice. And they may even extinguish spontaneously emerging collaborative and problem-solving behaviors in their students. Further, without systemic support, the work of a few, no matter how committed, has little chance of significantly reforming the process and outcomes of schooling*" (p. 8).

Therefore, there is a need for administrative support, not just verbal, but practical, in the form of funding, training and so on.

9.3. Where Does Responsibility for Improvement Lie?

The researcher found in the interviews that the responsibility for improving teaching and learning was an issue on which, there were differences of perspective among stakeholders. Each group thought the responsibility rested with the other one for being the source of the problem. For example, many teachers claimed that if they were asked to implement an innovation, they would be happy to do so, but that official encouragement was lacking. On the other hand, some administrators thought teachers do not want to try and practise new methods nor do they try to improve themselves professionally. However, an interesting point made by Dr. Al-Saleh in the interview, might indicate an approach to clarify the situation. He complained about teachers and their unwillingness to improve or carry out research related to teaching and learning. On the other hand, he claimed that when he was the dean of the Scientific Research Institute, as a result of good connections and personal communications with teachers, their responses were very positive. As he put it, "*The results of these efforts were promising. Teachers reacted positively to our efforts and there was a better amount of*

research papers during that period." This would indicate the existence of a gap between teachers and administrators. Some teachers, interviewed in the current study, started to plan some of their lessons to adopt co-operative learning. They contacted the researcher several times asking him about procedures to be followed and how to overcome some problems. This further suggests the willingness of teachers to participate in innovations if they are genuinely approached.

Another point of contradiction was between teachers and students. Many teachers thought students are not active learners. On the other hand, students felt that teachers are at fault in this respect, because of the way they treat students. Interestingly, when "Sami", a teacher who previously had a negative experience with co-operative learning and felt it could not be implemented with his students, saw his students working co-operatively, he admitted that his opinion was not totally correct. This finding draws attention to the lack of classroom experimentation and teachers' adherence to their traditional lecturing-recitation methods and means of assessment. Such a contradiction of expectations and activities taking place in the classroom was highlighted by Johnston (2000). She stated:

"*It appears then, that staff in higher education expect students to develop a conceptual understanding of their discipline, and to apply critical analysis to the information and ideas they encounter. This would require students to adopt a deep approach in their learning. While lecturers may expose these high level objectives, the teaching which students experience, and the examination questions set, seem often to encourage much more limited goals – the accurate reproduction of course content.*"

In fact, improving the teaching and learning process cannot be seen as a responsibility of only one party. It is a shared responsibility to reach the main aim of improving students. The university rector stated that: "*All the facilities of the university and its*

activities, efforts, are dedicated to serve the students." However, teachers were generally agreed, that they were dissatisfied with students' academic attainment. It was clear, in students' interviews, however, that students also were dissatisfied with the way they are treated. They seemed to have no interest in being in the classroom, because of the lack of interactivity. As a student commented: "*The classroom here is ultra boring. It would be better if the teacher did not come (except two teachers). Only tape recorders come to the class, and we* [students] *in turn, bring other tape recorders to record from the recorder.*" Students appreciate being treated as active learners, as this student described: "*I was laughing to myself when we started this session. This is because you were asking us to talk to each other and help each other and co-operate with each other while in the classroom, teachers always say to us; Do not talk to your classmate, if you have a question you must only ask me.*"

Thus, enhancing students' learning needs an accumulation of collective efforts. This strongly indicates the need to resolve this problem.

There is a need to recognise which agenda is being served: is it students' understanding? Or is teachers' focus on the curriculum content? It appears that it is presently the content rather than students' understanding. Matthews et al. (1995) argued that "*Instructors often find that the move to small-group learning is accompanied by the fear that all of the material in a course will not be covered.*" This was a common fear expressed by teachers in this study. They argued that they had to go through a crowded curriculum that gave them no chance to think of any other approach to improve and enhance students' learning. Although Schniedewind and Sapon-Shevin (1998) claim that co-operative learning could be used to teach the standard content, it does not seem to be valid at the institute surveyed for this study, where teachers were struggling to get through the content of most their subject matter by the lecturing approach, which means

that covering the same content in the same time with an active approach would be an impossible task. It appeared for a while that teachers in the institute felt their priority was to go through the syllabus, instead of good teaching and learning. One of them said:" *The curriculum is very intensive and it appears that it was set without adequate studies of its suitability for learners or teachers. And believe it or not, nothing has changed for eighteen years, even misprints or mistakes ... So please do not expect anything from teachers until they are satisfied with the whole academic environment.*" Teachers felt that they were forced to abandon what they believe would be beneficial for their students. This is not a desirable way of teaching. One could note that "*much of what happening in most classes is a waste of everyone's time. It is neither teaching nor learning. it is stenography*"(Felder and Brent, 1996).

Curricula have not been changed or evaluated for about twenty years (the same goes for the two other institutes). However, the university rector pointed out the university's plans with regard to curriculum development. As he put it, "*In the field of developing the academic programmes and faculties, there is a committee formed from the university council to produce practical and theoretical strategies for evaluating the academic programmes through two criteria: the first is to ensure the high level of the academic programmes and their quality. The second is to ensure the academic programmes' output. They should meet the needs of the Saudi society in a very good manner*". This step has been awaited for a long time and needs to be taken seriously. Teachers, who, in the interviews, complained about being excluded from process of curriculum design, are those who experience the real classroom life. Thus, they should be actively involved in the design and development of the academic curriculum reform programmes (Wiburg, 1995-96). Not only the teachers should be involved in such efforts. Administrators, teachers, and students all have to contribute in order to reach a shared vision among them. Senge (1990) believed that:

"*With a shared vision, we are more likely to expose our ways of thinking, give up deeply held views, and recognize personal and organizational shortcoming*" (p. 259).

One of the best ways to improve teaching quality is implementing active and co-operative learning (Felder and Brent, 1999).

The scientific research centres could help, in this connection, to build bridges between teachers and administrators. These centres were established to serve several purposes (Umm Al-Qura University, 1999). Among these purposes are encouraging teaching staff to conduct research in a variety of disciplines, preparing the means and facilities required by researchers to allow them to carry out their research, and cooperating with academic establishments inside and outside the Kingdom of Saudi Arabia through exchange of knowledge and experience. However, nothing has been mentioned about "action research" as a means to develop teaching practice at the university. The university, currently, is in a "mode" of change where action research could play a major role in the change process. Cohen et al. (1999) argue that action research could be applied to several parts of education such as:

"- *teaching methods – replacing a traditional method by a discovery method;*

- *learning strategies – adopting an integrated approach to learning in preference to a single-subject style of teaching and learning;*

- *evaluative procedures – improving ones methods of continuous assessment;*

- *attitudes and values – encouraging more positive attitudes to work, or modifying pupils' value system with regard to some aspects of life;*

- *continuing professional development of teachers – improving teaching skills, developing new methods of learning, increasing powers of analysis, of heightening self-awareness;*

- *management and control – the gradual introduction of the techniques of behaviour modification;*

- *administration – increasing the efficiency of some aspect of the administrative side of school life.*" (p. 226)

Dr. Al-Naser complained that teachers carry out research projects only for promotional purposes, while the rector thought that some teachers are hesitant to change and, may need an opportunity to see different approaches. Introducing "action research" would -in the researcher's opinion- be a starting point to the solution. Somekh (1995) sees action research as a bridge between research and teachers' actions. It would help to produce "practical improvement, innovation, change or development of social practice, and the practioners' better understanding of their practices" (Zuber-Skerritt, 1996, p.83).

Researchers in action research carry out research on their own practice in order to improve. It was noticed, in teachers' interviews, that teachers wanted their views taken into account in planning or designing what they deliver to their students. They wanted to be satisfied with the whole environment in order to exert their best efforts. An example was given by a teacher who said: "*We would love to implement a lot of bright ideas. However, we cannot implement what we think is right with no problems. We as teachers have no access to the process of planning, for either the content or the timetable. Our situation is as the famous saying goes: "He put him in the sea water and warned him against getting wet*". One of the features of action research is its involvement and participation (Cohen et al. 1999), which not only tap into participants'

knowledge and experience, but can also help to overcome resistance. Teachers who seem to reject new ideas, may have different attitudes toward it if they were involved in planning, as it is recognised that "people have more commitment to their own plans" (Dick and Dalmau, 1997). Through suggesting topics for research, the scientific research centres at the university could develop teams of researchers from the different academic disciplines that could carry out collaborative research.

Collaborative and collective efforts are another feature of action research (Winter, 1996; Kemmis and McTaggart, 1992; McKernan, 1991). This would overcome the problem raised by Dr. Al-Saleh when he discussed the curriculum issue. As he commented: "*What happens, in real university life, is no more than individual efforts that sometimes reach success, and at other times reach unknown outcomes.*" Dr. Al-Saleh, then went on to call for collaborative efforts coordinated by academic research centres. In his words: "*There also should be co-operation between teachers from the different disciplines. I can tell that we have a very scary individualistic attitude among our staff. These negative attitudes are real obstacles. To improve and develop, we have to have researchers from different areas of specialisation keeping working together in a spirit of team work, and research topics that really matter to both the university and the society.*" Participating in teamwork would significantly reduce individualistic attitudes.

Participants in action research have to have reflect critically on their work. Reflection in action research is a continuous process in which teachers reflect at every stage of action research (Cohen et al 1999). This would play major role in implementing co-operative learning as teachers have opportunity to see others' experiences.

Summary

This chapter has highlighted the major issues emerging from the fieldwork, in respect to computers in education, co-operative learning, and reasons for an apparent impasse which seems to impede innovation.

Teachers seem to have generally positive attitudes towards computers, and the lack of significant association between attitudes and most of the personal and professional variables tested, suggest that teachers in other institutes may well have equally positive attitudes. This together with the centralisation of the education system, would favour efforts to introduce computers for more widely in university teaching. Such moves are already underway, according to university administrators, and it was noted that they evidently recognize the importance of giving teachers access to computers, and training on them. In this respect, consistency can be seen between university policy, this study's emperical findings, and previous literature. The apparently more negative and less confident attitudes of women need to be addressed.

Regarding co-operative learning, also, teachers had generally positive attitudes and some sceptics were won over by the sight of their students participating actively and with enjoyment in the sessions conducted by the researcher. Teachers clearly recognized that the co-operative classroom would differ in many respects from the present arrangements, though they had differing views on the practicalities of managing co-operative learning (e.g. group size, whether or not to use reward structures, and so on); such differences of opinions are also found in the literature. Also consistent with previous research is the finding regarding teachers' "letting go"; whether because of underestimating their students, or reluctance to yield control, many evidently feared giving students responsibility for their own learning, despite paying lip service to the view that this is educationally desirable. Training would no doubt have an important

role to play in overcoming such attitudes, as well as helping teachers to deal with the "mechanics" of co-operative learning.

With teachers apparently enthusiastic about both computers and co-operative learning, it is interesting that so many of them feel that a new approach cannot be implemented in practice. The study findings suggest that innovation to improve higher education may be welcomed by students, teachers, and administrators, yet the old methods are perpetuated, despite growing dissatisfaction with the outcomes, while each group accuses the others of unwillingness or inability to change. The key issue here is communication, particularly between teachers and administrators, to bring their respective ideas and experiences to bear on the common goal of improving the quality of teaching and learning. The research centres in the colleges may play a role in facilitating such communication, and in encouraging teachers to become more reflective practitioners.

In the light of the issues highlighted in this chapter, recommendations will be put forward in the next chapter for promoting co-operative learning in Saudi universities.

CHAPTER TEN

RECOMMENDATIONS, LIMITATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

RECOMMENDATIONS, LIMITATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

10.1. Recommendations

To encourage implementation of computer supported co-operative learning, especially at the elementary stages of the institute, the following recommendations would help:

1. Staff development programmes should be introduced of a type that support and promote co-operative learning strategies, according to the following guidelines for such programmes.

Guidelines

One) Planning for training programmes

The developers should establish long-term goals of changing the predominant traditional methods of teaching. The traditional methods have been in use for decades and time will be needed to make the desirable shift to a more active, co-operative approach to learning. These long-term goals should be associated with short-term goals. The long-term goals aim to institutionalise co-operative learning and co-operation throughout all dimensions of the university, while the short-term goals of training programmes would be to enable enrolled trainers to implement co-operative training strategies and equip them with the skills needed to deal with situations taking place within the co-operative classroom.

- **Trainers:**

There are several ways to obtain trainers, e.g. experts in co-operative learning from outside the university. This way would solve the problem in the short-term, but it should not be the only one. Teachers could be sent (see Chapter 7) to centres that have international recognition, e.g. Kagan's or Johnson's, to get qualifications needed to launch a generation of co-operative learning educators who can train other teachers. Gradually there would be a co-operative environment with staff from all disciplines co-operating to design programmes.

- **Trainees**

The chance has to be given to all teachers to take part in these training programmes, especially bearing in mind that some or most teachers have no idea about other teaching and learning styles other than the one they are used to (see Chapter 7, interviews with administrators).

- **Location**

The university campus has facilities that allow developers to select suitable spaces. Large spaces could be used for opening sessions and plenary gatherings of all participants, whereas smaller ones would be used for the small group work. At the women's campus, closed circuit television could be used to allow interaction with male colleagues and trainers, while conforming to cultural and religious norms.

- **Time**

Since the teaching day is relatively short (8 am – 12 noon), the evening would be a convenient time to hold training for most teachers. However, once groups of teachers

are formed, group members can agree on times that suit them between their morning classes.

Two) Setting Training Goals

These goals should be long and short-term goals as mentioned earlier. The long-term goals are constant while the short-term ones would vary according to the participants' needs and stages of implementing co-operative learning strategies.

Three) Training Content

Although the content of a training programme would largely depend on its goals, certain considerations should be integrated in such a programme. These include the following:

a) Theoretical underpinnings of co-operative learning

Teachers need to know the theory under which co-operative learning takes place. It is impossible for a teacher who is convinced that knowledge and information should be positively received by learners to implement co-operative learning successfully in the classroom. Understanding the theoretical underpinnings of an innovation is one way of transferring 'theoretical beliefs' to practicality.

b) 'Living' in co-operative group work experience

This is, ultimately, what teachers will be asking their students to do. By participating in co-operative group work, teachers would discover how groups function and work, which will help them in classroom implementation. In addition, as teachers experience co-operative group work, they may have a clearer understanding of the theoretical underpinnings and the core elements of co-operative learning.

c) supervised classroom trials

Teachers, by conducting co-operative learning lessons with their students in real classrooms, will be enabled to make connections between training and the institute context. During such trials, teachers would have the opportunity to get constructive, knowledgeable feedback.

Three) After Training

A single training session will not, by any means, be sufficient to promote innovation. There should be continuous support and efforts to ensure that the desired outcomes are achieved. Evaluation of all aspects of training has to be an integral part of the training programme in order to improve it. Sustained support is needed to ensure that teachers continue to implement co-operative learning strategies successfully in a reasonable proportion of their classes.

2- Teachers should be encouraged to implement co-operative learning strategies:

Despite the existence of centralisation and conservatism of the Saudi educational environment, the researcher, drawing on his experience in teaching in the College of Engineering and the language institute, and studying for the Master's Degree at the College of Education at the same university, Umm Al Qura University, believes that the teachers become kings in their kingdom as they close the classroom door. They can try anything, or even do nothing, without many problems. Thus, the researcher urges teachers to take the initiative to promote innovations without waiting for the green light or encouragement from the administration. Here are guidelines to prepare and conduct co-operative lessons.

a) Designing the co-operative lesson

It is very important to have a colleague to help in the design and evaluation of the co-operative learning lesson. In designing and planning the co-operative lesson, teachers should plan their lessons by considering the curriculum objectives. They should identify the parts that can be achieved by co-operative groups and those that must be covered through direct teaching, as well as the parts that students may, individually at home, cover themselves.

Tasks:

The task should be open ended. Factual questions tend to hinder the group interaction and do not stimulate their higher order thinking. Students may be asked to prepare a presentation on a self-or teacher-selected topic. They may also be asked to prepare a teaching aid. In addition, they might be required to take part in a group product, such as an essay or composition. Teachers also may use real live examples to be the group task. This will assist in the transference of learning skills to the student.

Distributing students into co-operative groups:

Teachers may select 3-5 member groups, depending on the total number of students in the class (to ensure that they can manage them) and the resources needed by the task.

Heterogeneity should carefully be considered. Students from some ethnic origins should not be grouped together. The teacher should aim to cover as wide a dimension of heterogeneity as possible, consistent with a balanced approach; excessive heterogeneity may not be conducive to co-operative group work.

Two) <u>Promoting basic elements of co-operative learning:</u>

a) <u>Positive interdependence</u>

Teachers can promote positive interpersonal interdependence through several approaches. They may assign roles to members of the co-operative learning group such as reader, listener, recorder. Rotating roles will also help to promote positive interdependence. Other approaches may include resource interdependence in which all group members have only one resource to share. Requiring a single group product is another way.

b) <u>Accountability</u>

Teachers have to maintain individual accountability to ensure that there are no 'free riders'. One method is to carry out individual quizzes. Another approach is to assign a group member randomly to give a presentation of his/her group product or work.

c) <u>Group processing</u>

Teachers should make sure that every group progresses satisfactorily. They may ask groups to pause for a while to evaluate and reflect on their co-operative work and recognise any difficulties they have in coordinating their joint activity.

d) <u>Social skills</u>

Teachers should start their implementation of co-operative learning strategies with great attention to social and teamwork skills. They may ask students to perform team-building exercises that allow students to acquire skills needed for co-operative group work such as helping, listening, negotiating, and conflict management, dividing the work, encouraging trust, leadership, decision-making, and communication.

Three) Providing feedback

This is a role that teachers have to be willing to perform. However, teachers must try to keep their interference to a minimum, and ask students to search for the answer themselves. Teachers may turn a question back on the group. For example, if the students ask him/her, something, the teacher's reply may be a question like: "What do you think the answer is?" In this way, students would realise that they are responsible for their own learning and constructing their own knowledge.

Four) Giving marks for group work

Although the system of grading, in many cases, depends heavily on test papers, teachers still have 25-50% of the total mark for class work. Thus, teachers may assign marks to group work.

e) Patience and gradual implementation

Since co-operative learning strategies are quite new for both teachers and students, their acceptance may require time. 'Slow but sure' should be the approach of implementation. Teachers may start assigning groups to perform some class tasks, including tasks that promote teamwork.

f) Mixing lecturing and co-operative learning

Teachers may spend 10-15 minutes giving students the key concepts and information. Then, teachers assign the co-operative group to perform on a joint activity.

3. The Curricula and Research Development Unit at the Institute of Arabic Language for non-Arabic Speakers should be activated to help it perform what it was established for.

Teachers should be involved in curriculum evaluation, as well as the planning of the new curricula. Teachers must be involved in this unit's activities in order to achieve improvements that are strongly based on the real situation as seen by the teachers who are in charge of classroom activities. Any proposed developments need to be tested in the classroom, which mean boosting research in all divisions of the Institute of Arabic Language for Non-Arabic Speakers.

4. A unit should be established that is concerned with developing educational software:

Such a unit should be multidisciplinary, including content experts, programming experts and graphic designers. Such a unit will not be likely to succeed without proper funding. It would be pointless to spend a significant amount of money on purchasing up to date hardware while no attention is paid to the need to establish software development teams. This recommended unit should have the capability to train teachers in using educational software as well as equip them with the skills needed to use generic software in their teaching.

5. Communication should be promoted among all university staff: administrators, teachers, technicians and officials:

Meetings between administration and teachers should be more frequent than the current single formal meeting, and should be less formal. Communication should also be encouraged between academic research centres and teachers in all colleges to promote academic research.

6. Innovation in teaching and learning should be encouraged

This would reduce teachers' fears about experimenting with new approaches. Encouragement implies that teachers should be able to see examples of new trends in

education worldwide. This could be attained in several ways. Holding conferences and workshops in the university would be one way of helping teachers to broaden their experience. in addition, teachers' attitudes to innovation would be improved by giving them opportunities to attend international education conferences. Other approaches that would help in this manner are inviting leaders of educational innovations from around the globe and subscribing to more academic journals.

7. Computer Settings need to be designed to be conducive to co-operative work:

When computers, are introduced, the setting should be designed so that each computer can accommodate up to five students. The computer supported co-operative sessions that were conducted in the current research suggested the importance of this issue. If the computer setting is not properly designed, teachers will have difficulty handling groups. Moreover, it is important to be certain that each student is able to see what is on the monitor in order to participate in the activity properly.

8. The feeling of belonging must be promoted.

The feeling of belonging in the university, among both teachers and students, can be promoted by involving them in decisions that affect them. Even small matters such as planning the schedule and the timetable will be more appreciated if they are involved.

10.2. Limitations

This study concerns the introduction of computer supported co-operative learning in the Institute of Arabic Language for non-Arabic speakers at Umm Al-Qura University, Makkah, Saudi Arabia.

Although indicators of similarities between teachers from the four universities were found in the survey of computer attitudes, except those of for teachers from Umm Al

Qura University, their perceptions about co-operative learning were not explored. Thus, teachers' opinions were those of Umm Al Qura University.

Although the current study explored teachers' opinions with regard to computers and co-operative learning at all stages of the institute, students who participated in this study were from the elementary level. The curricular area was Islamic Studies and Arabic Language. Students were observed while performing class activities.

This study did not explore students' responses from other levels of the institute. Thus, the results of the current study cannot be generalised and a further investigation is needed for students from different levels.

This research aimed to investigate the possibility of introducing CSCL and to what extent it might be appreciated. Thus, there was no attempt to test its effect on student achievement. As a result, there is a need to conduct another study investigating the effects of this approach on students' achievement.

Students' responses interactions were categorised. However, since there was, in the current study, no intention to investigate co-operative learning effectiveness, the researcher did not attempt to study the effect of interactions on achievement.

No students from other colleges at Umm Al-Qura University were involved in the current study.

The researcher, in the computer supported co-operative learning sessions conducted in the current researched, used a self-developed piece of educational software.

10.3. Suggestions for Further Research

This research opens avenues to explore issues related to implementing co-operative learning strategies at the university level in Saudi Arabia. Co-operative learning issues which need to be investigated include the following:

1. Co-operative learning strategies in the real classroom setting. These investigations must take place over adequate periods to assure that implementation is thoroughly tested.

2. The effects of co-operative learning on students' achievement. There should be trials of the implementation of different models of co-operative learning. Studying various models will make it easier for teachers to recognise these various models and determine which are best suited to their situation.

3. The feasibility of implementing the guidelines recommended by the researcher. This would give a clearer picture of the advantages of these guidelines as well as drawbacks, which, in turn, lead to making appropriate modifications to optimise the procedure.

4. The effect of manipulating group composition on group dynamics, student-student relations, nature of students' interactions, and achievement. The teacher will then be in a better position to recognise what would help his or her students most.

5. The nature of students' interactions and what tasks promote a higher order of thinking skills. Such studies should indicate which types of task promote higher order thinking and what interactions are related to cognitive gains and so on.

6. The effects of different types of educational software on the group outcomes. Such investigations need to focus on studying which types of educational software

promote co-operative work on identifying the criteria for a successful piece of software for co-operative learning.

Concluding Remarks

In recent years, teaching approaches in Saudi universities, and specifically in the Arabic language institutes, appear to have gone through a period of stagnation. Reliance on the lecture method and an individualistic learning environment have rendered students largely passive recipients of information. Neither teachers nor students are satisfied with the prevailing situation. This study has shown that a computer assisted co-operative learning programme would be culturally acceptable and likely to be welcomed by students, and by many teachers and administrators. There would, of course, be staff development and resource implications of such an innovation but, as this study has shown, these need not be insurmountable. It is believed that the introduction of elements of co-operative learning, in the wide sense of the term embraced by this thesis, would contribute to a stimulating learning environment in which students would benefit, both socially and academically.

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APPENDIX ONE

Teachers' Interview Schedule

TEACHERS' INTERVIEW SCHEDULE

1. Have you ever let your students work together?

If yes:

- For how long?
- How?
- What benefits did you notice?
- How did you manage the class?
- Have you tried it again?
- Do you intend to do it again?

If no:

- What are reasons that prevent teachers from letting students interact and work together in the classroom?

2. What would the classroom be like in a group work situation?

- What do you think is the optimum group size?
- Should group members be homogeneous, for example in terms of ability level, or do you think a heterogeneous group is preferable?
- How long should students stay in the same group?
- How does the arrangement of the class for group work compare with the arrangement for traditional teaching?
- What strategies or conditions do you think would encourage group members to co-operate with each other?
- Is it possible for a teacher to control students' interaction and ensure that they stay on task?
- Can you tell me how you see the role of the teacher in a group-work lesson?

3. Are students capable of taking responsibility for their own learning?

- What do you think about students' current performance?
- How do students usually participate in the classroom?
- How far can students at this stage be expected to be responsible for their learning?

4. Are there any problems that make it difficult for teachers to implement a group work approach?

5. What conditions would be necessary for successful implementation of group work?

6. If the group work approach is introduced in the course(s) you teach, do you think it would be beneficial?

- Who would benefit?
- In what way(s)?

APPENDIX TWO

Questionnaire

استبانة رأي المدرسين

عزيزي المدرس الفاضل **سلمه الله**

السلام عليكم ورحمة الله وبركاته وبعد :

هذه الاستبانة تبحث عن آراء المعلمين بخصوص الحاسوب ، وهي جزء من دراسة تركز على بعض التطبيقات التربوية ومنها جزء متعلق بالحاسوب .

ونظراً لأن المعلم هو حجر الأساس وهو مركز أي تطوير فمن المهم معرفة رأيه في كل ما يتعلق بالعملية التربوية .

أرجو منك الإجابة عن كل العبارات طبقاً لما يلي :

أوافق تماماً إذا كنت متفقاً مع العبارة بدرجة قوية .

أوافق إذا كنت متفقاً مع العبارة فقط وليس بالدرجة السابقة .

لا أوافق إذا كنت معارضاً العبارة .

لا أوافق أبداً إذا كنت معارضاً العبارة بدرجة قوية .

فمثلاً :

العبارة	أوافق تماماً	أوافق	لا أوافق	لا أوافق أبداً
أنا أحب ركوب الخيل	✔			

يعني أن المجيب يتفق تماماً بدرجة قوية مع هذه العبارة وأنه يحب ركوب الخيل بدرجة كبيرة .

تذكر أنه لا توجد أجوبة صحيحة أو خاطئة بل المطلوب هو ما تشعر به أنت ، **(وكذلك رأيك أنت هو المفيد لهذا البحث وليس رأي خبراء الحاسوب)** .

ستكون المعلومات المقدمة منك سرية ولن يتم استخدامها إلا للبحث كما أنك لست محتاجاً إلى ذكر اسمك .

وأشكر لك سلفاً تعاونك

وتقبل أكيد التقدير

أخوكم

مبتعث جامعة أم القرى إلى المملكة المتحدة

علي بن فراج العقلا

مكة المكرمة

ص . ب : ٦٤٤٧

م	العبارة	أوافق تماماً	أوافق	لا أوافق	لا أوافق أبداً
١-	الحاسوب سيساعد الطلاب على تحسين تعلمهم .				
٢-	الحاسوب سيحسن النوعية بشكل عام في المجال التربوي				
٣-	الحاسوب سيساعدني في تحسين تدريسي				
٤-	الحاسوب يعتبر وسيلة سريعة وكفأة للحصول على المعلومات .				
٥-	الحاسوب سيساعدني لأتعلم أموراً عدة .				
٦-	الحاسوب مصدر لكثير من الأشياء الجيدة التي نستمتع بها .				
٧-	يوجد عدد غير محدود من تطبيقات الحاسوب التي لم يفكر بها أحد حتى الآن .				
٨-	الحاسوب يمكن أن يقوم بكثير من الأعمال المملة والمضجرة نيابة عن المدرس .				
٩-	قريباً ستكون فصولنا الدراسية مسيرة بشكل كامل من قبل الحاسوب.				
١٠-	الحاسوب يشعرني بعدم الارتياح لعدم فهمي إياه				
١١-	أحس بالخوف من التعامل مع الحاسوب .				
١٢-	برامج الحاسوب صعبة الفهم .				
١٣-	العمل مع الحاسوب يسبب لي الإحباط .				
١٤-	الحاسوب يشعرني بالرهبة لأنه يبدو معقداً .				

م	العبارة	أوافق تماماً	أوافق	لا أوافق	لا أوافق أبداً
١٥-	خبراء الحاسوب فقط يقدرون على استخدامه في التدريس .				
١٦-	أجهزة الحاسوب الجديدة مريحة الاستخدام .				
١٧-	يحتاج المدرس إلى فترة تدريب طويلة جداً ليتمكن من استخدام الحاسوب في التدريس .				
١٨-	أشعر براحة تامة عند العمل على الحاسوب.				
١٩-	الحاسوب سهل التشغيل ولا يحتاج لخبرة سابقة .				
٢٠-	الحاسوب سيجعل التربية والتعليم في عصرها الذهبي.				
٢١-	التعليم سيكون أسهل وأسرع باستخدام الحاسوب.				
٢٢-	قريباً سيتحكم الحاسوب بالعملية التربوية .				
٢٣-	استخدام الحاسوب سيرفع من معايير التدريس.				
٢٤-	باستطاعة المعلمين إتقان عملهم بدون الحاسوب لذا فالحاجة ليست ماسة إليه .				
٢٥-	استخدام الحاسوب سيفيد في تدريس المواد الصعبة فقط				
٢٦-	بشكل عام من الأفضل التدريس بدون استخدام الحاسوب.				
٢٧-	يستطيع الحاسوب مساعدة الطلاب على التعلم في جميع المواد .				
٢٨-	سيتحسن تفكير الطلاب باستخدام الحاسوب في الفصل الدراسي .				
٢٩-	لن يستفيد من استخدام الحاسوب في الفصل الدراسي سوى الطلاب المتفوقين .				

م	العبارة	أوافق تماماً	أوافق	لا أوافق	لا أوافق أبداً
٣٠-	الحاسوب سيحيل المعلمين إلى مجرد أرقام .				
٣١-	استخدام الحاسوب سيجرد المعلم من تعامله الإنساني .				
٣٢-	الإفراط في استخدام الحاسوب سيتعب المدرسين ويضرهم .				
٣٣-	سيصبح الطلاب مستعبدين للحاسوب إذا استخدم في الفصل الدراسي .				
٣٤-	سيقلل الحاسوب من أهمية كثير من الأعمال المهمة التي يقوم بها المعلمون حالياً .				
٣٥-	لن يفيد استخدام الحاسوب في تطوير العملية التربوية .				
٣٦-	من الأفضل التدريس باستخدام الحاسوب.				
٣٧-	التدريس بمساعدة الحاسوب سيكون أسهل من التدريس بدونه.				
٣٨-	إني أتطلع إلى الوقت الذي يستخدم فيه الحاسوب على نطاق واسع في التدريس				
٣٩-	فوائد استخدام الحاسوب في التدريس أكثر من تكاليفه أو تكافؤها .				

معلومات شخصية :

١)العمل : .....

٢) المؤهل : .....

٣)التخصص : .....

٤) سنوات الخبرة : .....

٥) هل تملك جهاز كمبيوتر شخصي ؟ نعم ( ) لا ( )

٦) هل حضرت أي دورة في مجال الكمبيوتر ؟ نعم ( ) لا ( )

٧) العمر : ٢٠ – ٣٠ ( ) ٣١-٤٠ ( ) ٤١ -٥٠ ( )

٥١ –٦٠ ( ) أكبر من ٦٠ ( )

٨)الاسم (اختياري) : .....

٩) هل قمت بالإجابة عن جميع العبارات ؟ " أرجو التأكد "

وأشكر لك يا أخي الفاضل منحك هذا الوقت الثمين وجزاك الله خيرا .

APPENDIX THREE

Interview with University Rector

بسم الله الرحمن الرحيم

المملكة العربية السعودية
وزارة التعليم العالي
جامعة أم القرى
مكة المكرمة
مكتب مدير الجامعة

الرقم : .....
التاريخ : .....
المشفوعات : .....

شهادة

[illegible] عبد العزيز [illegible] السلام

السلام عليكم ورحمة الله وبركاته .

[illegible] وأرجو لكم المزيد من التقدم والنجاح

[illegible]

وبهذا فإني أ. سهيل ماضي بإمكان المرتبات

لكم وسلفكم بحالة .

وتم فوضة منكم ، من جانبكم .

[illegible]

[illegible]

٢٨/٩/١٤٠٥

مطابع جامعة أم القرى

السؤال الأول : في العصر الحاضر تَدخّل الكمبيوتر في كل شيء .. ماهي خطط الجامعة للاستفادة منه في العملية التعليمية في جامعة أم القرى ؟ وهل هناك خطوات عملية في هذا الاتجاه ؟ وهل هناك معوقات أمام الجامعات في هذا السبيل ؟

الجواب الأول : خطط الجامعة تصب في اتجاهين :

أولاً : التأهيل والتدريب من حيث تأهيل وتدريب جميع منسوبي الجامعة من أساتذة وموظفين وطلاب ليتمكنوا من استخدام الحاسب الآلي والاستفادة منه في مجالات عملهم المختلفة .

ثانياً : التجهيز من حيث توفير أجهزة الحاسب والبرامج والشبكات والخدمات الحاسوبية المختلفة وذلك عن طريق مركز المعلومات والحاسب الآلي .

هناك خطوات عملية في هذا الاتجاه تشمل :

١- برامج دورية لعقد دورات تدريبية مستمرة لتأهيل منسوبي الجامعة من أساتذة وموظفين وذلك على تطبيقات الحساب الآلي الأساسية .

٢- تم ويتم عمل ميكنة لجميع المهام والأعمال اليدوية في جميع قطاعات وإدارات الجامعة على مراحل مختلفة ووفق جدولة منظمة مثال ذلك ما تم من حيث عمل وتشغيل برنامج التسجيل لصالح عمادة القبول والتسجيل وبرنامج الإدارة المالية وبرنامج الاتصالات وبرنامج البعثات الخارجية وبرنامج الإدارة الطبية والكثير من البرامج الاخرى الملائمة لطبيعة مهام وعمل كل قطاع والتي يتم تنفيذها في الوقت الحالي ويتم تشغيلها تباعاً وذلك بواسطة قسم البرامج بمركز المعلومات والحاسب الآلي .

٣- كما أن تقرير مادة دراسة في الحاسب أصبح أحد المتطلبات المهمة في كليات و أقسام الجامعة ، وقد أوصت اللجنة المشكلة من قبل إدارة الجامعة بإعادة النظر في متطلبات الجامعة والمناهج والمقررات بأن يكون الحاسب الآلي أحد متطلبات الجامعة الأساسية .

٤- تم توصيل خدمة الإنترنت للجامعة وكذلك تم توفير خدمة البريد الإلكتروني لكي يتسنى لجميع منسوبي الجامعة التواصل الأكاديمي وكذلك الحصول على الخدمات الأكاديمية المتوفرة على الإنترنت .

يتبع ...

أما المعوقات التي تواجه الجامعات في هذا الصدد فتتلخص فيما يلي :

- عدم الإعتداد بأهمية الحاسب ودوره الفاعل وذلك من قبل البعض رغم أن الحاسب الآلي أصبح من الركائز المهمة في مجالات التطور الحديثة وعلى كافة المجالات .
- عدم توفر الطاقات الفنية السعودية المؤهلة في مجلات الحاسب الآلي وارتفاع أجورها .
- التطور السريع في مجال الحاسب على مستوى الحزم البرمجية او الاجهزة ومكوناتها والتي تتطور بسرعة مذهلة مما يرفع التكلفة المالية على المستخدمين من حيث تغيير وتطوير الأجهزة وبرامج التشغيل والتطبيقات في فترات قصيرة .

السؤال الثاني : كيف ينظر معاليكم للتطوير الإداري .. رفع الكفاءة التدريسية .. كأمور مهمة للغاية للحاق بركب التقدم ؟ وكيف تجري في جامعة أم القرى ؟ وهل هناك صعوبات تجاه المسؤولين حيال التدريب على رأس العمل للمدرسين في الجامعة ؟

الجواب الثاني :

لقد أدركت الدولة حفظها الله أهمية التطوير بصورة عامة لمختلف جوانب العمل في مؤسساتها وبالتالي صدر قرار مجلس الوزراء رقم ١١٠٨ /م بتاريخ ٢١ / ٥ / ١٤١٠هـ القاضي بتشكيل إدارة متخصصة في كل وزارة أو مؤسسة حكومية للتطوير الإداري وترتبط بمديري الأجهزة أو نوابهم .

كما شمل المرسوم الملكي السامي مجموعة من الإجراءات العملية التي يمكن أن تستخدمها الوزارات الحكومية في أداء مهام هذه الإدارة ، ولقد كان يوجد في إدارة الجامعة في الماضي وحدة إدارية باسم التطوير الإداري بها موظفون فقط وترتبط بمعالي مدير الجامعة آنذاك ، مهمتها الأساسية التنسيق مع معهد الإدارة في إلحاق موظفي الجامعة وعلى نطاق ضيق بالدورات ونحن الآن ننظر الى عملية التطوير في جامعة أم القرى على أساس تطوير جميع قطاعات الجامعة سواءً الإدارية أو الأكاديمية أو الخدمات المساندة أو حتى في الفصول الدراسية ، وليس فقط التطوير الإداري ، وعلى هذا الأساس أستحدثت في جامعة أم القرى الإدارة العامة للمعلومات والتخطيط والتطوير الجامعي والتي أسندت إليها هذه المهمة .

تقوم هذه الإدارة بإستخدام أحدث أساليب إدارة الجامعات وتطويرها على أسس علمية وفق جدول زمني محدد وذلك بالاعتماد على النموذج المعلوماتي في تسيير العمل في جميع قطاعات الجامعة Information System Management أو مايرمز اختصاراً بـ ISM إن ويدرك العارفون بهذا النموذج الإداري الحديث أنه حتى تتمكن الجامعة من إستخدام هذا التوزيع لا بد من بناء قواعد بيانات لجميع جوانب العمل في الجامعة وتكون مدمجة Integrated Data Base .

فكان من أولويات الإدارة بجامعة أم القرى القيام ببناء قواعد البيانات هذه ومن ثم إستخدامها في عملية إنجاز القرار والتخطيط والتطوير الإستراتيجي للجامعة على الاقل للعشر السنوات القادمة ، ومن هذا التعليق يلاحظ أن الجامعة قامت بإستكمال المرحلة الثانية

من مشروع المدينة الجامعية وتطوير الحاسب الآلي وإنشاء الشبكات الداخلية التي تربط جميع مرافق الجامعة ، أما على مستوى تطوير إمكانيات العاملين في الجامعة بين إداريين وأعضاء هيئة التدريس فلقد أدركت إدارة الجامعة وجود قصور كبير في القدرة على التعامل مع الحاسب الآلي والتقنيات الجديدة فقامت في عام ١٤١٨-١٤١٩هـ بإلحاق ٦٨ موظفاً وموظفة بالتدريب في برامج معهد الإدارة وتدريب ٥٨٥ موظفاً وموظفة علي إستخدام الحاسب الآلي والبرامج الجديدة الموجودة في هذا المجال . ومتوقع أن تقوم الجامعة بإلحاق ١٢٢ موظفاً وموظفة ببرامج معهد الإدارة خاصة في أعمال السكرتارية وإدارة المكاتب وغيرها من الدورات التخصصية التي تناسب مجالات عملهم الفعلي كما ستقوم الإدارة خلال هذا العام الدراسي بالحاق ما يقرب من ١١٦٥ موظفاً وموظفة بدورات شاملة ومتقدمة في مجال الحاسب الآلي ، وتسعى الجامعة في الوقت الحالي الى بناء برامج في الحساب الآلي لميكنة المعلومات في الأقسام الأكاديمية . وستقوم بإذن الله في الشهور القليلة القادمة بإفتتاح مركز الوثائق والمحفوظات الحكومية وهو أول مركز من نوعه في الجامعات والمصالح الحكومية الأخرى ما عدا المركز الرئيسي الموجود في وزارة المالية والإقتصاد الوطني ، وهو المركز الأم الذي سوف ترتبط به جميع المراكز في مؤسسات المملكة الحكومية . كماتقوم الجامعة في الوقت الحالي بإجراء الدراسات المتعلقة بإعداد برنامج تدريسي مكثف في العلوم التربوية للاخوة أعضاء هيئة التدريس الذين ليس لديهم مثل هذا الإعداد .

كما تعمل الجامعة في الوقت الحالي على وضع إستراتيجية لتقييم عمل أعضاء هيئة التدريس وذلك من خلال دراسة التوزيع الإحصائي لدرجات كل مادة قام بتدريسها عضو هيئة التدريس إضافة الى تطبيق إستمارة تقويم الأستاذ من قبل طلابه ، كمؤشرين ضمن عدة مؤشرات سوف تستخدم في تقويم المدرس الجامعي . كما تهتم الجامعة بإيفاد السادة أعضاء هيئة التدريس للمشاركة في الندوات والمؤتمرات وورشات العمل المتعلقة بطبيعة تخصصاتهم العملية ولقد قامت الجامعة بإيفاد ٤٨ عضو هيئة تدريس في عام ١٤١٨-١٤١٩هـ لمختلف دول العالم للمشاركة في المؤتمرات العلمية في كثير من مجالات التخصص لأعضاء هيئة التدريس بالجامعة .

وبالنسبة للصعوبات فهي محدودة جداً وسوف يتم التغلب عليها بإذن الله لتحقيق أهداف الجامعة ، أما في مجال تطوير البرامج الأكاديمية في أقسام وكليات الجامعة فهناك لجنة مشكلة من مجلس الجامعة الموقر مهمتها الأساسية تتمثل في وضع إستراتيجيات علمية وعملية لتقويم البرامج الأكاديمية وذلك على مسارين أساسيين وهما : ضمان أن البرامج الأكاديمية على مستوى عال من الجودة الأكاديمية وأنها ستواكب أحدث التطورات العلمية في المجالات المختلفة . أما المعيار الآخر فإنه يتمثل في ضمان أن البرامج الأكاديمية في الجامعة تلبي إحتياجات المجتمع السعودي من الكفاءات العلمية المدربة بصورة متميزة .

كما أن الجامعة تقوم بإجراءات الدراسات الخاصة بإعادة النظر في الهيكل التنظيمي للإدارة في الجامعة بحيث يتمشى مع قرار الإصلاح الإداري والذي توج بموافقة مجلس الوزراء الموقر وهو في المرحلة الأخيرة لإعداده بصورة نهائية . ومن ثم تطبيقه بصورة عملية في إدارة الجامعة .

وتقوم الجامعة في الوقت الحاضر بإجراء العديد من الدراسات التنظيمية للإدارات المختلفة بالجامعة ، ودراسات أخرى لتبسيط مراحل إنجاز المعاملات المختلفة في إدارات الجامعة ، وذلك تمهيداً للمرحلة اللاحقة المتمثلة في ميكنة العمل الإداري في الجامعة بصورة تامة .

أما فيما يتعلق بالصعوبات التي نواجهها في تطبيق البرامج التطويرية المذكورة فإنه سوف يكون هناك نوع من التردد لدى الموظفين في تطبيق الأخذ بالجديد الذي سيتقرر عن طريق الدورات التدريبية الخاصة بهذه البرامج وعندها يكتشف الموظف أن هذه البرامج تيسّر عليه مهمة إنجاز أعماله .

السؤال الثالث : تطوير المناهج .. وتطبيق أنماط جديدة من طرق التدريس وتفعيل مشاركة الطالب في العملية التعليمية .. كل هذا وغيره مطلوب فهل هناك معوقات تواجه المسئولين في الجامعات عند النظرفي هذه الموضوعات ؟

الجواب الثالث :

اعتقد أن بعض اعضاء هيئة التدريس يحتاجون الى تطوير مهاراتهم التدريسية لكي يساعدوا على تطوير المناهج واستخدام أساليب وطرق متنوعة للتدريس .

- مشاركة الطالب في العملية التعليمية تأخذ حيزاً كبيراً من الوظيفة التي تقوم بها الجامعة ، فالجامعة ونشاطاتها وجهود أعضاء هيئة التدريس وامكاناتهاوضعت من اجل الطالب . اما إذاكان المقصد من السؤال هل يشارك الطالب في تطوير المناهج .. فحسب معرفتي أنه حتى تاريخه لم يكن الطالب مشاركاً في أي قرار يتعلق بتطوير منهج أو مقرر دراسي . الا في عدد محدود في بعض الرسائل الجامعية ، والمأمول عند قيام الجامعة باجراء دراسات تقويمية شاملة للمناهج أن يكون الطالب أحد الأطراف الرئيسة في هذه الدراسات ليعبّر عن وجهة نظره في المناهج التي يدرسها ويحدد جوانب القوة والضعف ومدى تلبية حاجاته التعليمية منها . لكي تعمل الجامعة على تحسين برامجها ومناهجها بشكل فاعل .

ومن أهم المعوقات في هذه المسألة قلة المصادر التمويلية التي تساعد على تكوين فريق بحث للقيام بمثل هذه الدراسات . كما أن بعض الأقسام العلمية استجابتها ضعيفة في مسألة تطوير مناهجها وإتجاه بعض أعضاء هيئة التدريس فيها الى ابقائها كما هي على الرغم من مرور عشرات السنين على وضعها .

السؤال الرابع : هل يرى معاليكم أن أعضاء هيئة التدريس سيرحبون بالتغييرات سواءً في المناهج أو دور الطالب أو الطرق التعليمية أو في استخدامات الكمبيوتر أم أنهم سيكونون متحفظين في هذا الاتجاه ؟

الجواب الرابع :

أولاً عضو هيئة التدريس الذي لديه اتجاه ايجابي نحو التطوير والتغيير سيكون عوناً للجامعة لاحداث تغييرات في المناهج . أما الآخرون فهناك بعض أعضاء هيئة التدريس من يكون دائماً في خط المعارضة ولا يريد اي تغيير ربما خوفاً على مستقبله وبطبيعة الحال فهذا وهم .. فالأستاذ محفوظ مكانه .. ومثل هؤلاء يحتاجون الي فرص للإطلاع على انماط مختلفة من أساليب وطرق التدريس والى نظريات وتطبيقات في مجال المناهج . . ويأتي ذلك عن طريق تشجيعهم على الالتحاق بدورات تدريبية وورش عمل لتطوير مهاراتهم وتحسين اتجاهاتهم نحو مفهوم التغيير والتطوير . ولعلنا مقصّرين في هذا الجانب حيث أن لدينا ادارة للتطوير الجامعي مهمتها المبادرة الى إعداد مثل هذه البرامج وأتمنى أن يتفعّل دورها مستقبلاً .. وقد إنحصر دورها حالياً على دورات في الحاسب الآلي لمنسوبي الجامعة التحق فيها عدد لا بأس به من أعضاء هيئة التدريس .. وطبعاً هذالايكفي !! فالرغبة في تقديم العديد من البرامج والدورات في مجالات تدريسية ومواقف تعليمية مختلفة لأعضاء هيئة التدريس واطلاعهم على أهم الاتجاهات والمعلومات والنظريات في التدريس والمهارات الأخرى ، ومتى ما تحقق ذلك فإنه من السهل العمل على التغييروسيكون الإتجاه العام إيجابياً بالنسبة لعضو هيئة التدريس !!

اما بالنسبة للتغيير في دور الطالب فأتمنى أن يشارك الطالب مستقبلا في صناعة القرار في الجامعة مثل المشاركة في اعطاء رأيه حول المنهج او المقرر الذي يدرسه ، المشاركة في تقويم أداء عضو هيئة التدريس، المشاركة في عضوية بعض المجالس في الجامعة او اللجان التطويرية .

ولعلنا نلمس الآن مدى رغبة الكثير من الزملاء أعضاء هيئة التدريس في إستخدام الحاسب الآلي وتقنياته بعد أن وفرت الجامعة خدماتها للجميع واشتركت في البريد الألكتروني والشبكة العنكبوتيه Internetواصبح ذلك في متناول عضو هيئة التدريس وفي مكتبه وفي جميع الادارات بالجامعة . ونأمل ان تغطى هذه الخدمة جميع منسوبي الجامعة .

APPENDIX FOUR

Students' Interview Schedule

THE STUDENTS' INTERVIEW SCHEDULE

1. Have you ever worked on computers before?

2. what is your experience of learning in groups?

3. Do you prefer group learning. Do you prefer to use the computer in group learning or do you think it is better without it?

4. After working with your mates in the recent week, how do you see your relationship with them?

5. On what basis did you select your group?

6. What criteria would you look for in a student to be selected in your group?

7. Do you prefer to work individually or with other learners?

8. Would you like to work in this way in your regular class?

9. What is the most important experience you have gained from these sessions?

APPENDIX Five

Calculations

Table A1: Positive Attitude, by Gender : Independent Samples Test

		Levene's Test for Equality of Variances F	Sig.	t-test for Equality of Means t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SUB1	Equal variances assumed	.016	.900	1.748	122	.083	2.2635	1.2952

Table A2 : Intimidation, by Gender : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**
SUB2	Equal variances assumed	.227	.635	1.900	122	.060	2.2904

Table A3 : Test Statistics for Computer Usefulness, by Gender

	SUB3
Mann-Whitney U	967.500
Wilcoxon W	1177.500
Z	-.494

z = - 0.494; NS.

Table A4 : Test Statistics for Negative Attitude, by Gender

	SUB4
Mann-Whitney U	749.000
Wilcoxon W	6209.000
Z	-1.985
Asymp. Sig. (2-tailed)	.047

z = 0.047; S.

Table A5 : Positive Attitude, by Age : Test of Homogeneity of Variances

SUB1

Levene Statistic	df1	df2	Sig.
.638	3	120	.592

Table A6 : Positive Attitude, by Age : ANOVA

SUB1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	139.566	3	46.522	1.652	.181
Within Groups	3379.143	120	28.160		
Total	3518.710	123			

Table A7 : Intimidation, by Age : Test of Homogeneity of Variances

SUB2

Levene Statistic	df1	df2	Sig.
.137	3	120	.938

Table A8 : Intimidation, by Age : ANOVA

SUB2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	112.378	3	37.459	1.524	.212
Within Groups	2948.808	120	24.573		
Total	3061.185	123			

Table A9 : Usefulness, by Age : Test of Homogeneity of Variances

SUB3

Levene Statistic	df1	df2	Sig.
.961	3	120	.414

Table A10 : Usefulness, by Age : ANOVA

SUB3

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	131.181	3	43.727	1.519	.213
Within Groups	3455.036	120	28.792		
Total	3586.218	123			

Table A11 : Negative Attitude, by Age : Test of Homogeneity of Variances

SUB4

Levene Statistic	df1	df2	Sig.
1.577	3	120	.198

Table A12 : Negative Attitude, by Age : ANOVA

SUB4

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	237.312	3	79.104	2.915	.037
Within Groups	3255.874	120	27.132		
Total	3493.185	123			

Table A13 : Chi Square Result for Negative Attitude, by Age, for King Saud University

Test Statistics

	SUB4
Chi-Square	3.030
Df	2
Asymp. Sig.	.220

Table A14 : Positive Attitude, by Experience : Test of Homogeneity of Variances

SUB1

Levene Statistic	df1	df2	Sig.
1.600	3	120	.193

Table A15 : Positive Attitude, by Experience : ANOVA

SUB1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	76.548	3	25.516	.890	.449
Within Groups	3442.161	120	28.685		
Total	3518.710	123			

Table A16 : Intimidation, by Experience : Test of Homogeneity of Variances

SUB2

Levene Statistic	df1	df2	Sig.
1.703	3	120	.170

Table A17 : Intimidation, by Experience : ANOVA

SUB2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	46.150	3	15.383	.612	.608
Within Groups	3015.035	120	25.125		
Total	3061.185	123			

Table A18 : Usefulness, by Experience : Test of Homogeneity of Variances

SUB3

Levene Statistic	df1	df2	Sig.
3.364	3	120	.021

Table A19 : Usefulness, by Experience : Test Statistics

	SUB3
Chi-Square	1.253
Df	3
Asymp. Sig.	.740

a Kruskal Wallis Test
b Grouping Variable: NTILES of EXPER
chi-square (from Kruskal-Wallis) = 1.253, df = 3, p = 0.740 > 0.05.

Table A20 : Negative Attitude, by Experience : Test of Homogeneity of Variances

SUB4

Levene Statistic	df1	df2	Sig.
1.811	3	120	.149

Table A21 : Negative Attitude, by Experience : ANOVA

SUB4

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	135.347	3	45.116	1.612	.190
Within Groups	3357.838	120	27.982		
Total	3493.185	123			

Table A22 : Positive Attitude, by University : Test of Homogeneity of Variances

SUB1

Levene Statistic	df1	df2	Sig.
1.518	3	120	.213

Table A23 : Positive Attitude, by University : ANOVA

SUB1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	192.493	3	64.164	2.315	.079
Within Groups	3326.217	120	27.718		
Total	3518.710	123			

Table A24 : Intimidation, by University : Test of Homogeneity of Variances

SUB2

Levene Statistic	df1	df2	Sig.
3.638	3	120	.015

Table A25 : Intimidation, by University : Test Statistics

	SUB2
Chi-Square	6.574
Df	3
Asymp. Sig.	.087

Table A26 : Usefulness, by University : Test of Homogeneity of Variances

SUB3

Levene Statistic	Df1	df2	Sig.
1.774	3	120	.156

Table A27 : Usefulness, by University : ANOVA

SUB3

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	43.172	3	14.391	.487	.692
Within Groups	3543.046	120	29.525		
Total	3586.218	123			

Table A28 : Negative Attitude, by University : Test of Homogeneity of Variances

SUB4

Levene Statistic	df1	df2	Sig.
.879	3	120	.454

Table A29 : Negative Attitude, by University : ANOVA

SUB4

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	135.213	3	45.071	1.611	.190
Within Groups	3357.972	120	27.983		
Total	3493.185	123			

Table A30 : Positive Attitude, by Curriculum Area : Test of Homogeneity of Variances

SUB1

Levene Statistic	df1	df2	Sig.
.696	3	120	.556

Table A31 : Positive Attitude, by Curriculum Area : ANOVA

SUB1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	64.448	3	21.483	.746	.527
Within Groups	3454.262	120	28.786		
Total	3518.710	123			

Table A32 : Intimidation, by Curriculum Area : Test of Homogeneity of Variances

SUB2

Levene Statistic	df1	df2	Sig.
.816	3	120	.488

Table A33 : Intimidation, by Curriculum : ANOVA

SUB2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	72.702	3	24.234	.973	.408
Within Groups	2988.484	120	24.904		
Total	3061.185	123			

Table A34 : Usefulness, by Curriculum Area : Test of Homogeneity of Variances

SUB3

Levene Statistic	df1	df2	Sig.
.597	3	120	.618

Table A35 : Usefulness, by Curriculum Area : ANOVA

SUB3

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	85.863	3	28.621	.981	.404
Within Groups	3500.355	120	29.170		
Total	3586.218	123			

Table A36 : Negative Attitude, by Curriculum Area : Test of Homogeneity of Variances

SUB4

Levene Statistic	df1	df2	Sig.
.714	3	120	.545

Table A37 : Negative Attitude, by Curriculum Area : ANOVA

SUB4

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	31.381	3	10.460	.363	.780
Within Groups	3461.805	120	28.848		
Total	3493.185	123			

Table A38 : Positive Attitude, by Qualification : Test of Homogeneity of Variances

SUB1

Levene Statistic	df1	df2	Sig.
2.059	2	121	.132

Table A39 : Positive Attitude, by Qualification : ANOVA

SUB1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.410	2	11.205	.388	.679
Within Groups	3496.300	121	28.895		
Total	3518.710	123			

Table A40 : Intimidation, by Qualification : Test of Homogeneity of Variances

SUB2

Levene Statistic	df1	df2	Sig.
.363	2	121	.696

Table A41 : Intimidation, by Qualification :ANOVA

SUB2

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	96.466	2	48.233	1.969	.144
Within Groups	2964.719	121	24.502		
Total	3061.185	123			

Table A42 : Usefulness, by Qualification : Test of Homogeneity of Variances

SUB3

Levene Statistic	df1	df2	Sig.
.170	2	121	.844

Table A43 : Usefulness, by Qualification : ANOVA

SUB3

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	45.498	2	22.749	.777	.462
Within Groups	3540.720	121	29.262		
Total	3586.218	123			

Table A44 : Negative Attitude, by Qualification : Test of Homogeneity of Variances

SUB4

Levene Statistic	df1	df2	Sig.
1.568	2	121	.213

Table A45 : Negative Attitude, by Qualification : ANOVA

SUB4

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	25.963	2	12.981	.453	.637
Within Groups	3467.223	121	28.655		
Total	3493.185	123			

Table A46 : Positive Attitude, by Ownership : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	
								Upper
SUB1	Equal variances assumed	.435	.511	2.750	122	.007	2.6011	4.4739
								4.6399

Table A47 : Intimidation, by Ownership :Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	
									Upper
SUB2	Equal variances assumed	4.802	.030	4.278	122	.000	3.6277	.8479	5.3062

Table A48 : Intimidation, by Ownership : Test Statistics

	SUB2
Mann-Whitney U	1121.500
Wilcoxon W	3677.500
Z	-3.851
Asymp. Sig. (2-tailed)	.000

Table A49 : Usefulness, by Ownership : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SUB3	Equal variances assumed	7.171	.008	2.163	122	.033	2.0890	.9659
	Equal variances not assumed			2.291	120.392	.024	2.0890	.9120

Table A50 : Usefulness, by Ownership Test Statistics

	SUB3
Mann-Whitney U	1532.000
Wilcoxon W	4088.000
Z	-1.771
Asymp. Sig. (2-tailed)	.077

Table A51 : Negative Attitude, by Ownership : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SUB4	Equal variances assumed	7.643	.007	-3.289	122	.001	-3.0617	.9310

Table A52 : Negative Attitude, by Ownership : Test Statistics

	SUB4
Mann-Whitney U	1349.500
Wilcoxon W	2780.500
Z	-2.697
Asymp. Sig. (2-tailed)	.007

Table A53 : Positive Attitude, by Training : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SUB1	Equal variances assumed	.050	.823	1.048	121	.297	1.0201	.9737
	Equal variances not assumed			1.113	112.495	.268	1.0201	.9162

Table A54 : Intimidation, by Training : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SUB2	Equal variances assumed	1.385	.242	1.996	121	.048	1.7931	.8982

Table A55 : Usefulness, by Training : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SUB3	Equal variances assumed	.182	.670	.914	121	.362	.9010	.9857
	Equal variances not assumed			.909	111.354	.365	.9010	.9914

Table A 56 : Negative Attitude, by Training : Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
SUB4	Equal variances assumed	.009	.925	-2.381	121	.019	-2.2713	.9541
	Equal variances not assumed			-2.383	114.479	.019	-2.2713	.9530