CHAPTER I

INTRODUCTION

Trends in Foreign Language Teaching and Learning

The teaching and learning of English as a Second Language (ESL) has employed diverse methodologies, reflecting successive theories of language acquisition. Approaches of historical significance include pure grammar and translation of texts, audio-visual teaching, and situational techniques. The more recent language acquisition methodologies are the communicative approach, the natural approach, the total physical response, and community learning. Each of these approaches has its strengths and weaknesses, and has been popular at various times. Examination of the various approaches indicate both similarities and differences (Hajjaj, 1988). Some approaches tend to concentrate on the context in which language learning takes place, while others emphasize the importance of classroom atmosphere and the students' frame of mind. The more traditional approaches seem to focus on defining language learning in terms of the structure and concentrate principally on the mechanics of the language as delivered by the teacher-driven classroom management style.

Modern emphasis on the teaching and learning of English as a Second Language is on individual learning styles and communication-based teaching and learning paradigms. This approach is informed by the psycholinguistic theory which perceives language acquisition as a "hermeneutical" process -- involving construction of meaning, a cyclical process of sampling from the input language, and continuously predicting and confirming or revising those predictions. In this approach, errors become generative rather than negative. They are no longer things to be corrected; instead, they are

considered hints into the workings of the learner's mind, allowing both the language instructor and students to understand more about the processes and strategies of acquiring a new language (Pearson & Stephens, 1994). The process has been greatly facilitated by the expansion of computer technology, including Computer Electronic Mail (CEM), word-processing, desk-top publishing, and other new applications in practically every educational field, including foreign and second-language acquisition. These new and revolutionary tools and techniques have created numerous opportunities to study and observe several new student dynamics resulting from the use of computers for communicative and learning ends (Barson, Frommer, & Schwartz, 1993).

A major impact of these developments is a shift of attention from contrived, memory-driven pseudocommunication of grammar and linguistic form to the context of actual, authentic communication with total personal involvement in the process of learning. Students use the computer as a means of communication and collaboration and, in the process, actively “negotiate” for meaning in an encounter and learning experience where *negotiation* is primary and, indeed, central. Recent discoveries in cognitive science increasingly emphasize the importance of this type of context-based learning. Nunan (1989), for example, considers the communicative task as a piece of classroom work which involves learners in comprehending, manipulating, producing, or interacting in the target language while their attention is primarily focused on meaning rather than form. He was not alone in stressing the centrality of the student’s personal effort in the learning process. Brindley before him (1984), had suggested that one of the fundamental principles underlying the notion of permanent education is that education should develop people's capacity to control their own destiny and, therefore, that the learner should be seen as being at the center of the educational process. The implications for educational

institutions and teachers is that instructional programs should be centered around learners' needs and, in particular, that learners themselves should take responsibility for the choice of learning objectives, content, and methods as well as the determination of the means used to assess their performance (Brindley, 1984, p.15).

Such a model dramatically alters the role of the teacher, compared with the more traditional methods. The teacher's responsibility in the project-oriented language course is merely to initiate the activity and invite and encourage the students to determine what transpires in the classroom. The teacher essentially plays a coaching, supportive role, allowing students the freedom to execute a project. In general, language instructors seem to be moving away from systematic form-focused grammar practice which tends to concentrate on memorization and application of grammatical rules as a strategy for producing accurate users of the target language.

Kuwaiti Educational System and the Learning of English as a Second Language in the State

Public education in the State of Kuwait began in 1936 with the establishment of a Department of Education. The state, then under a British protectorate, levied an education tax in order to open four primary schools: three for boys and one for girls. With the discovery of oil in 1946, resources became available for the development of a comprehensive educational system from kindergarten through the university level. The ministry of education was created in 1961 in order to establish and finance public schools. In 1991, 374,435 students were enrolled in kindergarten through grade 12 in 570 schools (Kuwait Information Office, 1993). The pre-college educational system of

Kuwait consists of four years of primary, four years of intermediate, and four years of secondary school. The primary and intermediate schools are on a yearly system while secondary schools have either a yearly or semester system. Those who attend the latter must choose between the sciences and the arts.

Private schools in Kuwait are under the supervision of the private Education Department a branch of the Ministry of Education and they include American, French, and British schools, reflecting the diversity of the expatriate population in Kuwait. Although private schools are primarily geared toward foreigners, they do benefit from government subsidies. The budget for education increased from a modest $270,000 in 1946, to $1.5 million in 1950, and $20 million in 1955. By 1990, Kuwait spent a total of 1.4 billion dollars on education with an average expenditure of approximately $4000 per student annually (Kuwait Information Office, 1993).

The College of Basic Education "Kulliyat AL-tarbiya AL-asassiya" was established in 1972 as the Teachers' Institute (TI). It offers teacher-training programs in the following academic departments: Islamic studies, Arabic language, social studies, education, psychology, mathematics, science, educational technology, libraries, home economics, arts education, physical education, music education, and interior design. Arabic is the language of instruction. The college awards four-year (130 credits) Diploma in Arts and Education and a Diploma in Science and Education. It is currently part of the Public Authority for Applied Education and Training (PAAET), which was established in 1982 to centralize supervision and to coordinate between the different specialized technical education institutes. PAAET is now an autonomous government body under the

jurisdiction of the Ministry of Higher Education. It consists of two sectors: applied education and training with several different training centers and colleges.

The applied education sector consists of College of Technical Studies; College of Business Studies; College of Basic Education; and College of Health Sciences. The training sector is composed of: Telecommunication and Air Navigation Institute; Electricity and Water Training Institute; Industrial Training Institute; Nursing Institute; Special Training courses; Parallel Education Schools; Service Training courses; Continuing Education Programs; and Professional Development Center. Admission to the technical colleges is controlled by PAAET. A secondary school certificate and Kuwait citizenship or citizenship in a Gulf Cooperation Council (GCC) country are required for admission. These colleges follow a credit-hour system and grade on a four-point scale. Most of the graduates of the College of Basic Education are employed by the Ministry of Education (http://www.paaet.edu.kw/).

Kuwait University (KU) was created in 1966 and consisted, at its inception, of two colleges: the College of Science, Arts and Education, and the Women's College. Today, it comprises more than 30 departments in the following colleges: Allied Health and Nursing; Engineering and Petroleum; Science; Education; Law; Islamic Law (Shariía) and Islamic Studies; Commerce, Economics and Political Science; Women's College; and Graduate Studies (see Figure 1).

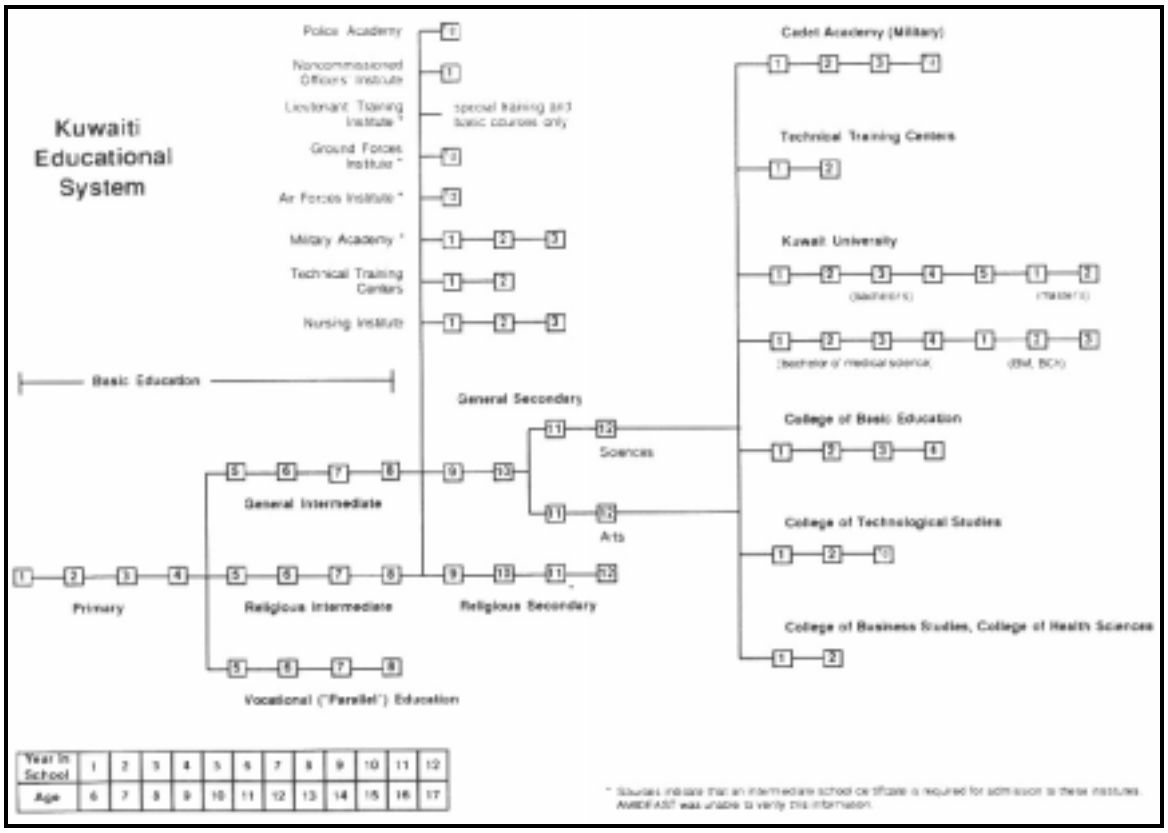

Figure 1. Map of Kuwaiti Educational System (Kuwait Information Office, 1993)

The medium of instruction in many of these colleges is English. That means that Arab-speaking Kuwaiti students have to learn English as a second language, with all the cultural and linguistic “transfers” of meaning involved.

Recent research evidence indicates that learners of English as a second language often learn English through a first language filter, which colors the transfer of knowledge. Brown (1994) identifies two types of transfers. First, "A positive transfer occurs when prior knowledge benefits the learning task -- that is, when a previous item is correctly applied to subject matter" (p.90); Second type is a negative transfer, or interference, occurs when prior knowledge or experience disrupts performance on a second task. Cultural factors tend to constitute difficulties for the English language learner from a

non-western culture in understanding and relating to western values encountered in the process of ESL study. A major source of difficulty, according to research evidence, is the ability to correctly identify a complex web of meanings articulated through vocabulary, syntax, and even non-verbal symbolic signs and gestures. This difficulty arises because the learner is linguistically bound to a cultural system with different values and symbolisms.

This study was designed to analyze the experiences of a group of Kuwaiti University students using the computer in the learning and application of English as a second language. The study indicates, in particular, the process, the successes achieved, and the difficulties encountered.

Statement of the Problem

Kuwaiti official language is Arabic; with English as the main second language, used primarily in education, commerce, science, and technology. Prior to the Iraqi invasion of the country on August 2, 1990, English was taught as a compulsory subject only in intermediate and secondary schools, as well as the medium of instruction in the Science, Engineering and Petroleum, Medicine and Allied Health and Nursing colleges of Kuwait University (KU). After the international liberation of the country from the invaders, the Ministry of Education extended the compulsory teaching of English to the primary level (ages 6-10 years).

The importance which Kuwait attaches to English as a second language (ESL) is reflected not only by both the number of periods and the length of time that are devoted to it, but also by the strategic importance of the government agencies and other

institutions where it is mandatory. Pupils in intermediate and secondary schools, study English for as many as five periods a week. (Periods are forty-five minutes long in winter and forty minutes in summer). English is also taught in all post-secondary institutes run by the Department of Technical and Vocational Education in the (PAAET). Kuwait University's (KU), foreign language courses are obligatory and are part of the general university requirements for graduation. The Language Center that coordinates the study of English was established in the academic year 1973-74 and is responsible for all foreign language courses most of which are English. Nearly all students are required to take at least three obligatory English courses in addition to any remedial credits they may need to gain entry into the first year of university study. A language unit is included in each college's curriculum under the direction of a supervisor. Courses attached to the colleges of Medicine, Allied Health, and Engineering and Petroleum use materials written and designed specifically for their students concentrating on appropriate language and research skills. The college of Medicine has developed its own language unit in order to offer medical students an intensive English program for their first three semesters of university study (http://www.kuniv.edu.kw/language_centre.html).

The Department of English Language and Literature, which was inaugurated under the auspices of the College of Arts at the founding of KU in 1966, continues to provide courses for those majoring in English Language and Literature. The department emphasizes aspects of formal language acquisition for the first two years of study. The third and fourth years cover topics related to the study of literature and English linguistics. The overwhelming majority of its graduates join the Ministries of Education and Higher Education as teachers and administrators of ESL programs. Moreover, most

of KU graduate-level courses in all fields are taught in English. To meet the needs of those who only wish to acquaint themselves informally with the English language, the KU Center of Community Service and Continuing Education offers evening classes using the facilities and many of the teachers from the Language Center, but at reasonable and affordable rates for other students and the general public (Kuwait Information Office, 1993).

Further evidence of the importance that the state of Kuwait attaches to English as a second language is the large number of industrial, business, and governmental agencies that have designed and developed English language programs for their recruits and employees, outside the formal education system. Major examples of these are Kuwait Oil Company, the Ministry of Defense, the Commercial Bank, and Kuwait Airways, all of which have independently created or contracted their own English language instructional programs. There are also several locally based English language schools as well as several English-medium schools catering to the needs of expatriates from other countries residing in Kuwait. An increasing number of Kuwaiti students continue to enroll in these private schools, especially since the liberation of the country from the Iraqi invasion.

The foregoing review indicates the growing importance of English as a second language in the state of Kuwait -- a non-English speaking country. The review establishes the prevalence of English in private and public schools, government agencies, and private corporations. Despite the widespread adoption and use of English in the country, however, the technology for its learning and acquisition is still very limited. The phenomenal expansion of computer technology that has made possible Computer Electronic Mail (CEM), word-processing, desk-top publishing, and other new

applications in practically every educational field is yet to make its impact in the teaching and learning of English in Kuwait. Most English language teaching and learning still employ the traditional approaches, which emphasizes structure and therefore concentrate principally on the mechanics of the language, delivered by the teacher-driven classroom management style.

Examination of the literature identified no study that has attempted to assess the instructional use and application of CEM to native Arabic speakers who are studying English as a second language. The only reported studies are those dealing with mainly American, European, and non-Arab populations. This study is designed to fill that gap. Its focus is on communication of the English language acquisition and achievement among Kuwaiti students, and the aim is to investigate the impact of CEM on the process of learning English as a Second Language among Kuwaiti Students (ESLKS).

Research Objective

The specific objective of this research is to examine the influences of CEM on English learning performance and competence of middle level ESL Kuwaiti students at KU. The effects of CEM usage on communications between teacher (instructor) and students (learners), among students, and between ESLKS and Native American English speakers are also examined. The specific focus is on communication of the English language acquisition and achievement; and the aim is to investigate this subject in a non-western setting.

Research Questions

The aim of the research is to examine the extent to which the use of CEM contributes to improved use of written English skills of middle level Kuwaiti students as measured by the Kuwaiti participants' generation of English structure, syntax, spelling, vocabulary, and writing clarity of expression. The following questions are addressed:

1. Does the use of CEM improve participants' sentence structure, syntax, spelling, vocabulary, and clarity of writing skills?
2. What are the ESLKS attitudes and opinions toward the use of CEM improve participants' sentence structure, syntax, spelling, vocabulary, and clarity of writing skills?
3. How useful is CEM as a learning tool or resource in Kuwait?
4. What special problems occur in the use of CEM?

Purpose of the Study

The widespread use of English as a second language in the state of Kuwait calls for improved methodology and learning technology. Available evidence from many parts of the world illustrates the tremendous potentialities of Computer Electronic Mail technology for the teaching and learning of English writing. The purpose of the study is to explore those potentials in the Country of Kuwait. The aim is to contribute information for improving ESL curriculum and instruction through exchange of CEM conversation between and among a sample of native Arabic middle level speakers and a like sample of native American English speakers. By so doing, the study also hopes to contribute information for handling the problem of linguistic transfer that is so common among people who are learning another language.

Significance of the Study

Computer networks have brought to the traditional classroom setting the capacity to make remote resources accessible locally. This, in turn, has facilitated collaboration among teachers, students, university faculty, and education professionals, in addition to making library resources and databases available. It has also provided interactive learning and courses to users in remote locations. The purpose of this study is to examine and describe the potential use of CEM in teaching middle level ESLKS. It is expected that the results of this study will be utilized in the instructional programs of Kuwait's schools.

The major contribution of this research is to evaluate the effectiveness of CEM in the teaching of ESL writing to middle level Kuwaiti students. Another aspect of the study is to compare and contrast the results with the findings of previous research that have

tried to explore the educational benefits of using computer networks and electronic resources as didactic tools. By so doing, the study hopes to contribute information that will improve the practice and strengthen this new and developing field. The research also hopes to explore ways of integrating CEM into the traditional Kuwaiti school system. It is believed that by investigating how the use of CEM influences the one-to-one teacher-student relationship, student-to-student interactions, and the student-native speakers' American English communications, meaningful conclusions and important policy implications will emerge. Finally, it is hoped that the findings of this study will generate further research interests and encourage further treatment of the needs of Kuwait students who seek to study and learn the English language.

It is hoped the information generated by the study will facilitate the process of exposing students to international CEM communication. Some of the advantages which, according to Ma (1993, 1994) are to: (a) increase their knowledge of other cultures, (b) create more openness between participants, and (c) greatly increase information exchange among participants.

Theoretical Basis

The study is informed by a language teaching and learning paradigm, which recognizes differences in individual learning styles as well as the importance and centrality of students' personal effort in the learning process. Another support for this methodology is the newly discovered "hermeneutical" process of language acquisition which, according to psycholinguistic theorists, involves construction of meaning, a

cyclical process of sampling from the input language, and continuously predicting and confirming or revising those predictions.

Still another theoretical prop for the study is the shift of attention in the study of language from the contrived, memory-driven pseudocommunication or traditional communication to the context of actual, authentic communication with total student involvement in the process of learning. This is the widely advocated "project approach" to the language course in which the role of the teacher is to initiate the activity, invite and encourage the students to determine what subsequently transpires in the classroom. Several considerations recommend this approach: First, it perceives the learner as the center of the educational process -- where instructional programs are centered on learners' needs. Secondly, the learners themselves exercise genuine control in the choice of learning objectives, content, and methods as well as in determining the means for assessing their performance (Brindley, 1984, p.15). Such a model dramatically alters the role of the teacher, compared with the more traditional methods. This is a clear departure from traditional teacher-driven language teaching and learning that: (a) fails to involve learners in the communicative task of comprehending, manipulating, producing, or interacting in the target language; (b) ignores the centrality of students' personal effort and failed to base the learning process on those efforts; and (c) therefore diminishes students' capacity to control their own destiny.

The study is also motivated by the availability of CEM and other revolutionary tools and techniques which have created numerous opportunities to study and observe teaching and learning dynamics resulting from the use of computers for communicative and learning ends (Barson, Frommer, & Schwartz, 1993).

Definition of Acronyms

CMC: Computer -Mediated Communication

CEM: Computer Electronic Mail

ESL: English as a Second Language

ESLKS: English as a Second Language Kuwaiti Students

KU: Kuwait University

PAAET: Public Authority for Applied Education and Training

K.D: Kuwaiti Dinar (Kuwait Official Currency)

CHAPTER II

LITERATURE REVIEW

Introduction

Examination of the literature indicates the growing popularity of Computer Electronic Mail (CEM) or E-mail Communication System (ECS) research. The effort, however, is only a small part of the wider field of Computer-Mediated Communication (CMC) research. “Electronic mail,” as used in the literature, includes not only communication via computers but also e-mail messages sent and received by other means of communication (e.g. facsimile, telex, intercommunicating word processors, satellite, and digital sound/video). This study uses the term "Computer Electronic Mail" (CEM) to refer specifically to e-mail, which is defined as the "transmission of messages in electronic, rather than hard-copy, form" (Simpson, 1982. p. 3). The review focuses only on messages transmitted via computers. The two terms, "E-mail" and “CEM,” are used interchangeably throughout this review.

The review is divided into five sections, which investigate the various uses of CEM for instructional purposes, organized in the following way:

1. Section One: Computer-Mediated Communications
2. Section Two: Phenomenon of the Internet
3. Section Three: Computer Electronic Mail
4. Section Four: Approaches to Teaching ESL Writing
5. Section Five: ESL Measurement and Evaluation

Computer-Mediated Communication (CMC)

Computer-Mediated Communication (CMC) in its broadest sense refers to any kind of human communication involving the transmission of electronic signals through the medium of the computer (Trenchs, 1993; Rudy, 1996). CMC also refers to computer systems whose structure enables an audience to share communication for the collection, processing, formation, and dissemination of information and ideas (Hiltz & Turoff, 1978, p. 229). The use of CMC has grown rapidly within the past two decades. Much of that growth has been driven by the phenomenal increase in the number and use of personal computers, and the increase in the volume of data, and the proliferation of transmission links capable of connecting computers. Another impetus for the phenomenal growth of Computer-Mediated Communication since the 170's has been its usefulness as a tool for examining communicative effectiveness within organizational, interpersonal, and mass communication contexts (Metz, 1994).

The massive literature on CMC is full of many confusing acronyms, often with similar or overlapping meanings such as Computer-Based Instruction (CBI), Computer-Based Training (CBT), Computer-Assisted Instruction (CAI), Computer-Managed Instruction (CMI), and Intelligent Tutoring Systems (ITS) (Kuehn, 1994). The versatility of CMC links it with many other fields. This is why many researchers observe that the field lacks a solid theoretical base. Rudy (1996), for example, declares that "despite a great deal of published work, the field still has an unsatisfactory, piecemeal feel to it. Much of the work that has been published is unsatisfactory, being based upon unrealistic, laboratory-like simulations, and a positivist epistemology" (p. 198). Similarly, Metz (1994) argues that "there is no cohesive ground work for studying CMC, and as a result,

there is no fundamental theory which guides CMC research" (p. 32). He observes further that "much of the work has been done in isolation to other studies concerning CMC, and provides little or no continuity from one body of research to another." His conclusion is that "CMC researchers have failed in their duty to organize and define their field of study" (pp. 32-33). This difficulty is mentioned also by Steinfield and Fulk (1990), who argued that many of the theories that do exist in CMC are far from being conclusively supported or refuted. Furthermore, Sprague (1992, 1993), in her arguments for a revitalized research agenda for both communication education and instructional communication calls for scholarship centered on up-to-date theoretical perspectives.

Despite this problem, academic researchers of CMC agree that this type of interaction alters the character of human communication. For example, Perrolle (1991) state that this mode of communication "alters the social norms governing conversation by removing elements of emotion and social control," and that "it also provides the possibility of more equal participation by obscuring the visual and verbal distinction of status that give high-ranking or aggressive people an advantage in face-to-face (FTF) encounters" (p. 21). Early CMC research seemed to be concerned with the extent to which CMC could substitute FTF communication. As a matter of fact, CMC has been compared to and contrasted with FTF communication, written communication, and telecommunication technology such as the telephone. These comparative studies have raised important conceptual and practical issues related to media substitution (Kim, 1994).

The extensive and diverse CMC research can be divided into two major areas of concern. The first is related to the issue of "media choice" and is primarily focused upon

the question of how individuals as users choose a medium for a particular form of communication. The second deals with "media effects" and is concerned with what effects different media have once they have been selected for a message (Rudy, 1996). Some of the issues cut across the categories; as such, the division is arbitrary. The purpose, it seems, is merely to facilitate presentation of major scholarly works. On example of the arbitrariness of the categorization is media choice which depends to a large extent on how media effects are perceived.

The theory of "information richness" developed by Daft and Lengel (1984, 1986) remains the most influential theory regarding the issue of media choice. Both researchers defined information richness as the ability of a communication medium to facilitate the creation of shared meaning or to convey information to its users. In their original proposal, Daft and Lengel ranked media in ascending order of information richness without any regard for situation or context. The ranking, which did not include CEM, was applied to undressed documents, written addressed documents, telephone and face-to-face contacts, and was made on the basis of four criteria: (a) language variety where a richer media is able to incorporate a wider variety of language and consequently is better at conveying meaning; (b) multiple cues such as words, symbols and gestures; (c) feedback allowing for more interactive discussion; and (d) personal focus, where richer media permit personal feelings and emotions to be articulated and conveyed.

This theory postulated that individuals will choose a medium for a particular message on the basis of "equivocality" or "uncertainty," where equivocality means not knowing which question to ask and uncertainty means not having the data needed to answer particular questions. Daft, Lengel, & Trevino. (1987) studied managers in a large

petrochemical company and found statistically significant support for the hypothesis that managers prefer information-rich media for incidents involving high equivocality and information-poor media for incidents involving low equivocality. The scale they used for equivocality was one (low) to five (high). Additional supportive findings were reported by Trevino, Lengel, Bodenstein, Gerloff, & Muir (1990).

Other researchers, however, have provided conflicting evidence concerning this theory (Markus, 1987; Rice & Shook, 1988; Rice, Hughes, & Love, 1989). Markus (1994) seemed to suggest that the media richness theory is a good model and concluded that individuals choose media on the basis of conforming to a set of social norms established within organizations. Meanwhile, Lee (1994) argues that the richness of a medium is not only a property of the medium itself, but also of the organizational context in which the medium is used. The most devastating criticism came from Fulk, Schmitz, and, Steinfield. (1990) who refuted the basic assumptions of the theory including: (a) media have fixed properties; (b) individuals make choices independently of the people around them; (c) choice-making is a purely cognitive, prospective and objectively rational process; and (d) the choice made is efficiency-driven. Instead, these researchers insisted that media choice is subject to a host of situational factors including individual characteristics, accessibility of media, and time constraints. For them, media choice depends on an individual's evaluation of media, the task at hand, and the media skills and experience accumulated over time. In other words, individual skills and media properties determine a person's perception of media, which then determines media choice.

Other scholars have focused their attention on the importance of shared symbolic meaning within a group or organization when selecting a certain medium for

communication (Banks & Riley, 1993; Contractor & Eisenberg, 1990; Giddens, 1984). Sitkin et al.; (1992) developed a rather elaborate model distinguishing between the data-carrying capacity of a medium and its symbol-carrying capacity. They tested the model by dividing the symbol-carrying capacity into an intrinsic symbol-carrying capacity and the symbolic meaning attached to the medium--whose attractiveness. They claimed, is determined by its data-carrying capacity, its symbol-carrying capacity, task contingencies highlighting characteristics of the task at hand, normative contingencies including cultural norms and rules of communication conduct, and constraints on the capacity of particular media to convey the message to the intended recipients.

From its earliest beginnings, CMC has been characterized by the complete lack of expressive nonverbal behavioral cues such as the nuances of an FTF conversation created with nods, smiles, eye contact, distance, tone of voice, and other bodily movements and gestures (Sproull & Kiesler, 1988). However, Reid (1991) found that users of CMC must and do compensate for the lack of these contextual cues. She argues that CMC users have managed to develop "ways of sending computerized screams, hugs, and kisses." She coined the term "emoticons," a name derived from the words "emotive icons," to explain the artistic display of emotion and meaning--without which much of CMC would be spent verifying the intent of each message.

Different forms of emoticons already exist, each with its own specific purpose. First, there is the common practice of simply verbalizing physical cues such as laughter by writing "ha ha" or "hehehe." Second, actions made by CMC users are typically described within two asterisks. Similarly, the third form of visual expressive content is achieved through the inclusion of terms addressed in all capital letters. Here, the stress of

a word as a statement is equivalent to yelling. Finally, the fourth form of emoticons is shorthand for the description of physical conditions using characters placed together and commonly known as "smileys." Overall, there are more than five hundred of such symbolic icons. It was Reid's (1991) hypothesis that such creativeness implies that computer users have the ability to adapt to limited communication situations and even substitute graphic symbolic cues to replace conversational shortcomings.

The thinking behind the reduced cues approach suggests that the lack of social context cues tends to obscure the boundaries that delineates the forms of acceptable or unacceptable behaviors. Reid (1991) has gone so for as to say that CMC encourages disinhibition among its users because of the anonymity associated with conversing with a terminal between the participants; this becomes a boon for those people who suffer from shyness. CMC users tend to be more self-centered and/or information-centered as a result. However, although this view has some attractiveness, it has received criticism--most notably from Lea and Spears (Lea & Spears, 1991; Spears & Lee; 1990; Spears & Lea, 1991). These authors argued for an alternative model which they called the Social Influence De-Individuation (SIDE). This model distinguishes between an individual's personal and social identities. The latter results from the individual's sense of belonging to a social group whose norms must be followed. Depending on the situation, one might behave more according to either one's personal identity or one's social identity.

Lea and Spears spoke of the individual or the group being "salient," i.e. emphasized as being important in a given situation. They argued that even though CMC undoubtedly does not convey some visual information or the physical presence that

would be available in FTF communication, the recipient of a message can still perceive and be influenced by a social dimension.

Communication is efficient when a particular medium is judged to have a "social presence" level that matches the level of interpersonal involvement required for the task. Social presence theory has been used to account for interpersonal effects in CMC research and is derived from a feeling of involvement where other actors are jointly active in communicative interaction. According to Short, Williams, and Christie (1976), the fewer channels or codes available within a medium, the less attention is paid by the user to the presence of other social participants. Thus, as social presence declines, interaction is perceived to be more impersonal. These researchers defined social presence as (a) the extent to which a communication medium is perceived to convey the actual presence of another communicator, or (b) the appropriateness of a medium for supporting a variety of communication medium tasks. Further, the social presence of a medium was taken to be a "perceptual or attitudinal dimension of the user, a 'mental set' towards the medium" (Short et al.; 1976, p. 65). Among newer media, CMC with its paucity of nonverbal elements and back channeling cues has been classified as extremely low in social presence in comparison to FTF. As such, the concept of social presence bears some resemblance to the concept of media richness. Communication media can be arrayed along a continuum on the basis of the degree to which a communication medium conveys the physical presence, non-verbals, and social cues of the participants. Naturally, FTF communication is viewed as the ideal mode, and all other means of communication (including CMC) are deemed to be defective in comparison. Rice and Case (1983) examined the uses and effects of CMC compared to FTF. They reported that respondents

felt that communication with CMC was appropriate for tasks that required limited social interactions and social intimacy. Adrianson (1985, 1988), and Adrianson and Hjelmquist (1988, 1991) investigated the suitability of CMC and FTF in terms of sending and receiving data. Kim (1994) mentioned in her dissertation that experiments have shown differences in participation, decision making, and interaction between group meeting and simultaneous, computer-linked discourse via CEM. On the whole, CMC is less socially oriented, less friendly, and less emotional. Also, she found FTF is perceived as having the greatest social presence followed by audio plus video, audio only, and prints.

Many scholars have tended to agree with this conclusion regarding CMC. For example, Schmitz and Fulk (1991) ranked several communication media according to richness, placing CEM near the middle of the list. From most to least, their rankings were: “face-to-face, telephone, CEM, personal written text, formal written text, and numeric computer printouts” (p. 488). Steinfield (1992) arrived at similar conclusions, as did Komsky (1991) and Kiesler, Siegel, and McGuire (1984). Scholars disagree, however, on exactly how to classify the various traits of CMC. This may be perhaps the result of the constant changing, modification, and updating of CMC technology. Once a study has been published, the conclusions and predictions became invalid either because (a) the program being used is not universally adopted by all users, or (b) the program has been modified or completely altered, undermining the assumptions on which the conclusions are based.

The Internet Phenomenon

The Internet supports a vast multi-disciplinary community of researchers and educators within universities, government, business, health, and industry. Professionals with disciplines ranging from astrophysics to zoology are avid users of this ever-changing and growing chain of computer networks. The array of resources they use is vast and continuously evolving. The most common network applications currently used include: national and international CEM (reaching destinations via gateways to public and private networks). File transfer, including "complex" documents, graphics, sounds, moving images and data related to all sorts of individual and group projects. Access to software libraries; remote connection to super computers and other high-performance computing facilities with specialized architectures. Remote connections to computers dedicated to demanding large-scale scientific and technical modeling (such as modeling the atmosphere or the economy). Remote connections to computer-controlled scientific instruments such as particle accelerators and telescopes, interactive searching of bibliographic abstracts and full-text literature databases. Access to specialized databases such as satellite, medical, oceanic and legal data; and use of specialized knowledge banks with computers hosting various expert systems, on-line scientific and technical journals, informal topical bulletin boards, and ongoing computer-based conferences and discussion groups.

The phenomenal expansion of the Internet came as a direct result of the rapid growth of high-performance computing within the international research and development community during the 1980's. High-performance computing is now widely considered a keystone technology that supports advances in many areas of science and

technology, which, in turn, have a large impact on future national and international progress and competitiveness. The use of so-called super computers is commonplace in major academic, government, business, and industrial laboratories. While the US is currently leading the rest of the world in the development and use of high-performance computer technology, foreign competitors are working diligently to catch up. The American federal government continues to play a leading role in the development and use of high-performance computing. Los Alamos National Laboratory, Lawrence Livermore National Laboratory, and other federal facilities are primary users of each new generation of super computers and major contributors to the software libraries serving users of super computers.

Research and development programs funded by the National Aeronautics and Space Administration (NASA), the National Institute of Standards and Technology (NIST), and the Departments of Defense and Energy are steadily advancing state-of-the-art software development, computer architectures, and high-speed networks. In addition, most all-major automobile companies now use super computers to help in the design of new car models. Most major oil companies employ them for geological exploration, and chemical and pharmaceutical companies have begun to put them to work modeling molecules or delving into problems of biology and biochemistry. Furthermore, the merging of various types of media with the computers has presented the fields of education and research with powerful means of communication. These technologies utilize new developments in data storage, ever-increasing computer speeds and capabilities, and sophisticated software tools in order to allow a learner to access a rich multimedia resource base in a way that fits the user's own needs and styles.

Today's Internet began as an experiment more than two decades ago by the US Department of Defense. The US Military was looking for a way to link all of the mainframe computers through a system that could ensure safe transport of the data shipped between the different computers with unlimited alternative routes in case of partial outages (especially during a nuclear attack) (Kehoe, 1993). In 1969, the Department of Defense Advanced Research Project Agency (DARPA) connected, at a cost of one million dollars, four mainframes: Stanford Research Institute, the University of California/Los Angeles, the University of California/Santa Barbara, and the University of Utah (Krol, 1992). DARPA called the network connecting these four sites the ARPANET. In the ARPANET model, communication always occurs between a source and a destination computer. However, the network itself is assumed to be unreliable. Any portion of the network could disappear at any moment without affecting the flow of communication. This was achieved through the development of the Transmission Control Protocol/Internet Protocol (TCP/IP) which defined how Internet computers are to communicate (LaQuey & Ryer, 1992).

To send a message on the network, a computer only had to put its data in an envelope called an Internet Protocol (IP) packet, and address the packet correctly. In the 1970s, DARPA sponsored several additional networks based on packet-switching technology that allows many users to economically share a single communication channel. It also supported the development of a set of rules and procedures for addressing and routing messages across separate networks using universal communication protocols. By the 1980's, the number of networks attached to ARPANET experienced rapid growth due to new technological advances and improvements. ARPANET had become so

heavily utilized that it prompted the Department of Defense in 1983 to split off operational traffic associated with military research and programs onto an independent network known as MILNET (Ellsworth, 1994).

At about the same time as the Internet was coming into being, Ethernet Local Area Networks (LANs) were developed. This technology matured quietly until desktop workstations became available around 1983. Beginning in 1985, the NSF assumed responsibility within the American federal government for coordinating the development of the Internet. Since then, the NSF has actively worked to foster the creation and funding of a backbone network connecting regional and local area networks in the US and many other countries world wide. The most important legacy of the NSF's networking efforts is that it allowed everyone to be able to access the network. What comprises the Internet, however, remains a difficult question because the answer changes over time. Also, there is no single authority figure for the Internet as a whole. Management of the Internet is decentralized, residing primarily at the host site and at individual network levels. However, the Internet Society, or ISOC, is a voluntary member organization whose purpose is to promote global information exchange through Internet technology. It appoints a council of invited volunteers called the Internet Architecture Board (IAB), which meets regularly to discuss standards and allocate resources.

Moreover, Internet users express their opinions through meetings of the Internet Engineering Task Force (IETF), which is another volunteer organization that meets regularly to discuss operational and short-term technical problems of the networks. When a problem merits concern, the IETF sets up a working group for investigation and recommendation (Electronic Frontier Foundation/Gaffin, 1995-Guide to the Internet,

3.15). Furthermore, the Open Systems Interconnection (OSI) suite of protocol promulgated recently by the International Standards Organization (ISO) is trying to unify the procedures of communication and define how certain applications (e.g. electronic messaging, on-line connections, transfer of files) are to be accomplished. In September 1990, IBM, MCI Communications, and Merit, Inc. announced the formation of a nonprofit company to extend the capabilities of NSFNET to additional educational and research institutions and to commercial private companies that provide services to education and research.

Internet in the State of Kuwait

The Internet is an entrance to the rest of the world, where one can see, listen to, and learn about anything related to knowledge or information--or even misinformation.

Millions of people around the world can reach the major libraries and databases through the Internet. All information about such resources were transformed into image, word text, and digital audio/video files that can be reached easily by favorite browser systems such as Netscape, Mosaic, and Internet Explorer.

After the Gulf War, when Kuwait was liberated from Iraqi occupation, the Internet was accessible as part of re-establishing telecommunications services in the State of Kuwait. GulfNet (Kuwait International Computer Company) and Sprint International contracted with the Ministry of Communications to achieve this goal. Not many people in Kuwait were on the Internet at that time. The only people who used it were those who had experience with it while being in American colleges and universities or those educated about the Internet. The Internet was first used by Kuwait University in 1992.

GulfNet was the first provider to offer access to the Internet in Kuwait and the Gulf region. It offers accounts on a multi-user UNIX host with a full Internet Connection. Its Shell accounts also support the use of Serial Line Internet Protocol (SLIP) software, which allows the use of graphic-user interfaces such as MS-Windows, Macintosh, and X-Window systems. Full connectivity is also offered using Point to Point Protocol (PPP). Line speeds are up to 64 Kbps with good digital quality, ideal for large organizations and individuals who expect heavy interactive use. Gulfnet Kuwait does not provide local access numbers in other Gulf States. Currently, the only way that Gulfnet Kuwait can be reached is with an international phone call. Monthly subscriptions cost 65 K.D. ($215) for personal accounts and 45 K.D. ($150) for students. Costs are expected to decline both for startup and recurring charges (http://www.kuwait.net/).

Computer Electronic Mail (CEM)

Some early CMC researchers mistakenly thought that CMC was the same as Computer Electronic Mail (CEM). However, CEM is but one subset of CMC, and is not all inclusive (Metz, 1994). Very few studies have addressed the importance of CMC's two major subsets: asynchronous and synchronous forms of communication. The term "electronic mail" describes a variety of communication systems and can be broadly defined as the electronic rather than physical or verbal delivery of a message. The illustration in Figure 2 shows the process of narrowing and refining this definition.

As checking mail becomes a virtual rather than actual (physical) experience, the tasks of reading, responding, editing, copying, drafting, and researching can all be accomplished from the user's own terminal. Through the use of centralized and remote

terminals as well as telephone lines, electronic mail is able to integrate successfully word and data processing with telecommunications (Nakamoto & Ching, 1984).

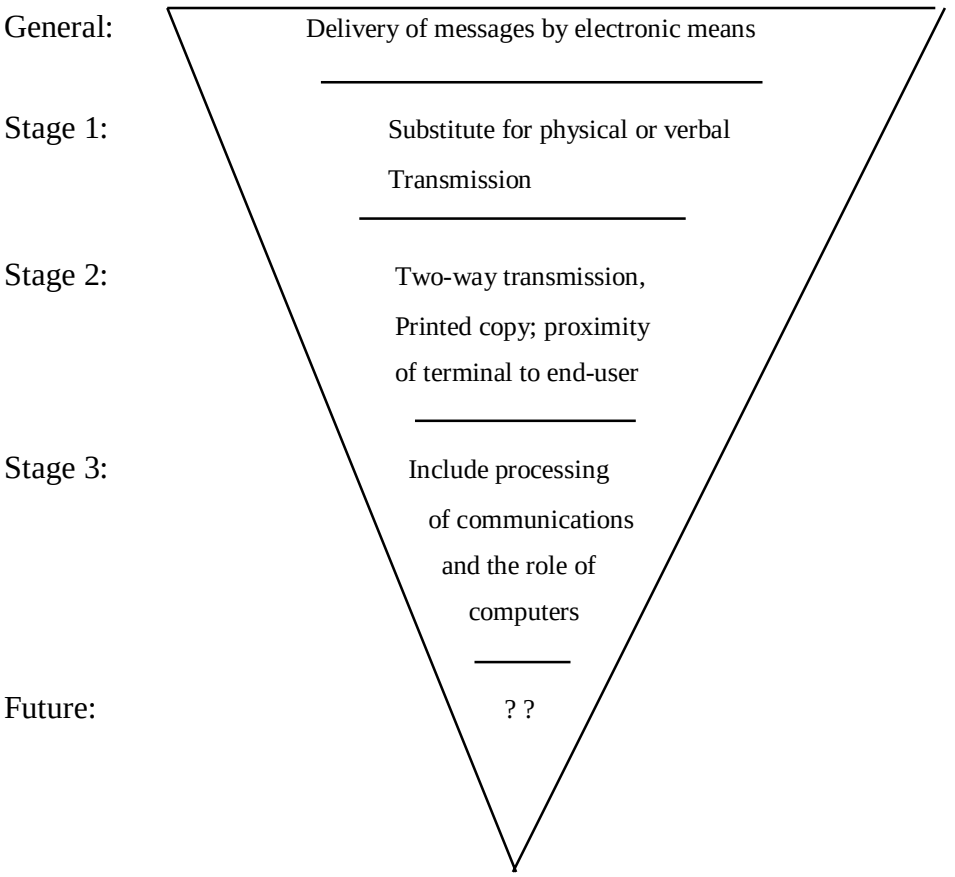

Figure. 2. An evolutionary definition of electronic mail (CEM)
(Nakamoto & Ching, 1984. p. 6).

Computer Electronic Mail (CEM) is easy to use, compatible with Internet CEM, and faster than traditional communication. It allows the transmission of formatted text, graphics, voice, movies, digital video, and other data files.

The Use of Computer Electronic Mail (CEM) in Education

The use of CEM is one example of a CMC technology that is developing unanticipated applications. CEM was originally designed as a form of communication among distant military units. Now, CEM is an essential computer communication tool and a basic aid for information exchange. Few CMC specialists anticipated the powerful attraction that speedy, inexpensive, and secure communication might have for members of the academic and business communities. The use of CEM today in commercial, scholarly, and personal communication far exceeds its use as a means of communication between military clients (Goodwin, Hamrick, & Stewart, 1993).

According to Chen (1994), today's CEM is one of the most common forms of computer-mediated communication (CMC). The new CEM technology system allows people to communicate one-to-one, one-to-many, and many-to-many. Through a telephone line, computer, and satellite, CEM messages can reach every corner of the world within seconds. Thompson (1987) pointed out that the CEM communication network can help students work collaboratively, solve problems, and experience writing as a means of communication in live real-world situations.

Holsopple (1995) stated that “any medium of communication brings with it inherent strengths and weaknesses” (p.17). CEM is both quick and asynchronous. For instance “one defining attribute of e-mail is the ability to send a message when the recipient is not at that moment logged in. The message is placed in an "in box" for later inspection by the recipient at his or her convenience" (Anderson, Bikson, Law, & Mitchell, 1995. p. 5). People can communicate with each other regardless of time and distance. Even though the original function of computer technology was for information

processing, most recently computers have increasingly become a means of human communication. Computers enhance interactivity, and thus are forcing a very basic change in the previously one-way nature of mass media communication (Rogers, 1986). Time, geography, and size can make group communication difficult, but CEM and networks that provide faster processing and information exchange can alleviate such constraints (Dubrovsky, Kiesler, & Beheruz, 1991).

Several users can simultaneously view a document, revise it collaboratively, and confer without the necessity of an FTF meeting for information exchange (Hiltz & Turoff, 1978; Williams, 1977). Ma (1993, 1994) believes that exposing students to international CEM communication may have the following effects on users: (a) increased knowledge of other cultures increases, (b) more openness between participants, and (c) greater amount of information exchange. Furthermore, CEM allows distant collaboration (Hahn & Stout, 1994). Several authors have pointed out that the effects of CEM technology have proven to be quite different from what was expected (Finholt, Sproull, & Kiesler, 1990; Hiltz & Turoff, 1981; Ord, 1989). Sproull and Kiesler (1992) proposed a helpful categorization of the effects of CMC in general and CEM in particular into two levels. First-level effects are relatively obvious and are thought to fill the gap that exists between written communication by letters or memos and spoken communication by telephone. This also includes the ability to send data and information faster than would be possible with other traditional mail services and the ability to send a single message to many people simultaneously.

Second-level effects are those which are often not foreseen and are concerned with social impacts on the groups and organizations using CEM. For example, Markus

(1994) has dealt with these unexpected effects of CEM on the social life in organizations by assessing the merits of three different perspectives on the impacts of this technology. The three theories include: (a) technological determinism, whereby social outcomes following the introduction of a new technology are determined solely by the technology itself; (b) the rational actor perspective, which argues that individuals determine the outcomes and sometimes will take actions even if they have negative social consequences; and (c) the emergent process view, which claims that positive and negative effects may occur for totally unforeseen reasons and are not attributable to either human choices or material characteristics of the technology. In the organization she studied, Markus found support for the last two theories evidenced by effects such as people avoiding social contact and using CEM in a highly interactive way.

Many CEM researches has been frustrated by frequent system changes in organizations. New CEM systems are being installed all the time and users are constantly learning how to use and master new programs. Furthermore, advances in CEM links through the Internet are increasing linkage between companies rather than just within companies, thus opening up new communication possibilities and unforeseen consequences. Many researchers criticized the tendency of many CEM studies to consist of laboratory-like experiments. Authors such as Culnan and Markus (1987), Fulk et al., (1990), and Mantovani (1994) pointed out that many CEM studies attempt often to measure a large number of variables such as age, gender, computer experience, and job type. To see which were correlated with media-use decisions, or whether these variables could be grouped together using factor analysis or other statistical manipulations. Orr's

study (1991) showed clearly the limitations of the laboratory approach and argued for more ethnographic CEM research.

According to its content, CEM can be used for interpersonal communication or for giving and receiving information. This study will be deals with the latter type of information exchange, focusing attention more specifically upon instructional usage. Although the use of CEM in schools is a fairly recent phenomenon, elementary school students have encountered computers in subjects such as writing (Daiute, 1985; Wolf, 1985), mathematics (Carrier, Post, & Heck, 1985; Henderson, Landesman, & Kachuck, 1985), and science (Hale, 1986; Kracjik, Simmons, & Lumetta, 1986). Marcus (1984) tried to facilitate peer collaboration among students in composing drafts and generating new ideas for their written assignments by providing each other feedback through electronic messages. CEM encouraged interdisciplinary contact among teachers providing opportunities for changes in interpersonal networking which could facilitate the exchange of new ideas and teaching approaches (Broholm, 1993). Engle (1996), in his Ph.D. study, examined and described e-mail-mediated instructional conversations conducted during a content-area reading and writing course. Participants in the study included undergraduate students from three different content specialty areas as well as an instructor who mediated the conversational interactions via CEM communications.

Rubin and Bruce (1985, 1990) indicated that upper-elementary and middle school students in the USA and Canada used a software program which was developed to aid students in the various stages of the writing process by sending personal messages and comments on each other's papers. Welsch (1982) noted the use of CEM for instructional purposes to support teamwork among engineering students who communicated among

themselves about homework assignments. Barret and Paradis (1988) reported a similar study regarding undergraduate students at Massachusetts Institute of Technology (MIT) who were taught engineering and scientific writing on-line. Cooper and Selfe (1990) used computer conferences to teach undergraduate students who were taking technical writing courses. Although their learning took place in a traditional classroom setting, twice a week the students participated in an asynchronous computer conference by writing and discussing the course readings and assignments.

Meacham (1994) used a CEM discussion (listserv) for a psychology course at the State University of New York at Buffalo. The CEM Discussion List achieved the purpose of providing the benefits of a formal lecture for his large class, while also enabling discussion similar to smaller classes. While he found that some students participate or speak up more than others even in the CEM method, one student wrote that "in most classes, you get the teacher's view, and no one else's. With this list, other people get to share their views almost anonymously" (pp. 36-39).

Meanwhile, in Australia and Canada several projects were designed to put teachers in contact with students in different locations, thus delivering distant instruction. Similarly, in the United States instructors were connected with adult students using CEM to teach a distance writing course to teachers (Newman, 1989). Wide Area Networks (WANs) have been used to connect students with computerized sources of information such as bulletin boards or on-line databases. For example, in Alaska, Riedle (1986) reported that students were given access to a large computerized database called CompuServe in order to perform database searches and maintain electronic correspondence with special interest groups (forums) throughout the country. Other

studies were conducted by Burns (1986), who reported on Ohio and New Jersey elementary school students using CompuServe Forums to share ideas for class assignments and writings; and Kleifgen (1991), who studied the New York Youth Network and its impacts on sharing writing communications among children and adults.

Quible and Ray (1995) used the Internet to teach a business writing communication course and discovered that CEM access was useful but not the only aspect of the Internet students might use. They concluded that, "students in written business communication courses will likely use the Internet in two primary ways: to communicate electronically with others (using e-mail) and to access information resources (using a variety of tools). Some will be more readily useful than others." (pp. 11-15). According to Sayers and Brown (1987) and Cohen and Miyake (1986), Computer Electronic Mail (CEM) has linked classes from different countries across contrasting cultures and languages

CEM and ESL Writing

Many of the studies that have investigated how CEM might be used in classroom writing offer encouraging results. Several researchers have explored how CEM can be used to create distant audiences for student writers, which encourages them to write better and with more enthusiasm (Cohen & Riel, 1989; Levin, Riel, Rowe, & Boruta, 1985; Mark, 1990; Wang, 1993; & Warschauer, 1995). For example, Wang (1993) did an extensive study comparing dialogue journals written by ESL students in both CEM and traditional formats. She concluded that the students using CEM journals wrote more text, used more elaborate language structures, and asked more questions than did students

using paper and pen. Chen and Wood (1994) suggested that students using CEM may improve in learning, writing, and critical thinking skills, as well as experience less computer anxiety. Bruhn (1995) noted that CEM allows users to write as if they were thinking aloud. Also, CEM is bound to make us all more competent or at least more comfortable as writers. Bruhn (1995) concluded that "e-mail has the potential to be the most intelligent conversation we've had in sometime" (pp. 43-44). Hall and Tiggeman (1995) in their paper focusing on "writing-to-learn," offered a special class to teach finance; students used CEM to express ideas in their own words, and the increased frequency of the assignments may well improved students' fluency and self-confidence as writers.

According to Warschauer (1995), "using e-mail for teacher-student communication can give students more access to their teachers, provide a more convenient channel for sharing student (and teacher) writings, and assist students in developing a better sense of the writing process" (p. 35). Pratt and Sullivan (1994), who conducted a study of the effects of computer networking on teaching ESL writing, showed strong differences in participation patterns between students who used CEM and those who used traditional classroom discussions. They found out that only 50% of the students spoke up even once during the oral discussion in the traditional class, whereas 100% of the students in the computer-networked classroom participated in the electronic discussion. Furthermore, in the electronic discussion the teacher took only 15% of the conversational turns while in the oral discussion of the traditional classroom the teacher took 65% of the turns. Using holistically rated pre-and post-writing samples, Pratt and

Sullivan found that students in the computer-assisted class gained significantly more in writing than did their peers in the traditional class (see Figure 3).

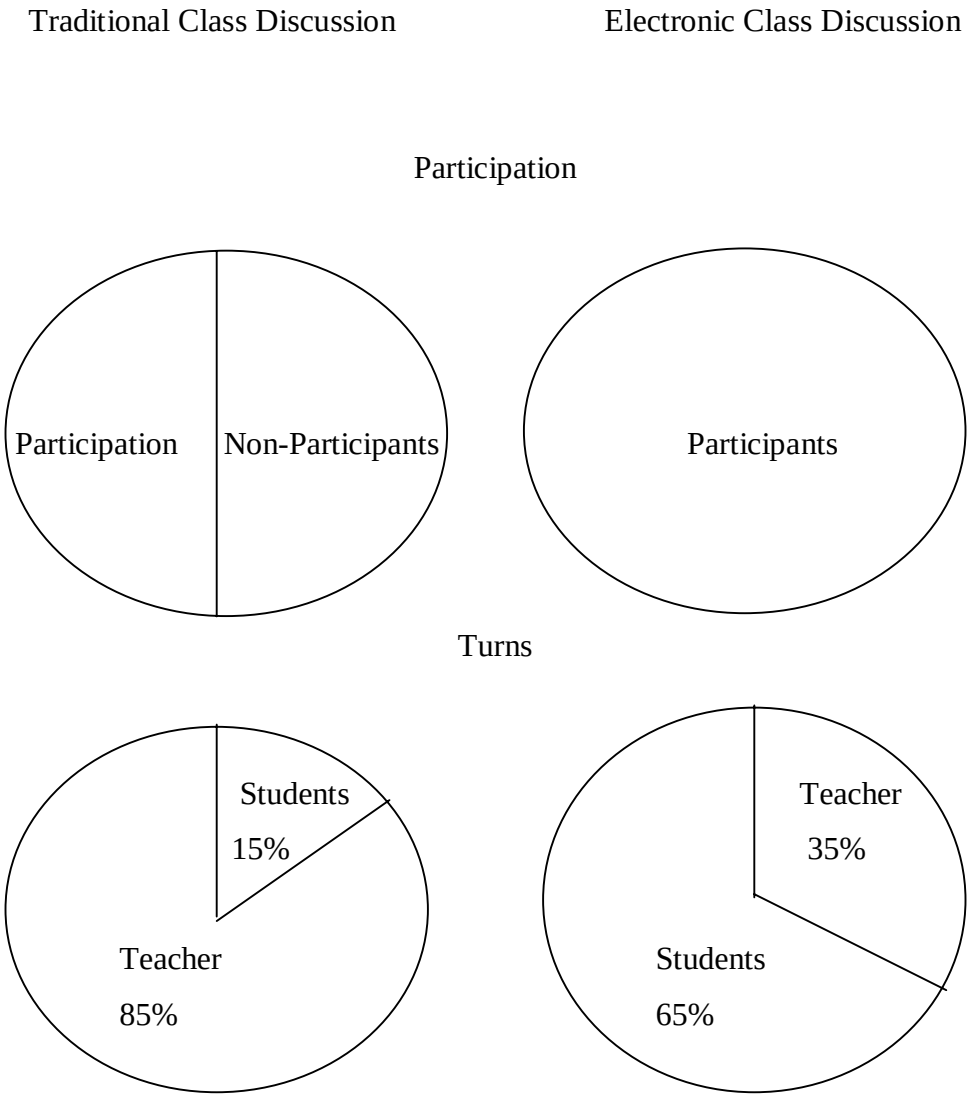

Figure 3. Participation patterns in traditional and electronic class discussions (Pratt & Sullivan, 1994).

Moreover, a number of other studies have indicated substantial benefits from the use of electronic communication in high school and university general foreign language

courses. These benefits include faster-paced interaction, a greater amount and wider range of language production, more student attention to syntax and discourse features, increased student-to-student interaction, and heightened motivation for target-language communication (Chun, 1994; Beauvois, 1992; Kelm, 1992; Kern, 1993; Kroonenberg, 1994; 1995). The greater equality of participation among students is one of the most consistent findings in the majority of these studies. In electronic discussions, shy and less confident students do not have to interrupt anyone or seize the floor from aggressive students, but can instead participate at their own speed.

Hartman, Neuwirth, Kiesler, Sproull, Cochran, Palmquist, and Zudrow (1991) and Mabrito (1991, 1992) argued that power and status markers associated with race, gender, position, and accent appear to be less influential in CMC than FTF exchanges. Therefore, they have found that less able and more apprehensive writing students not only communicate more during electronic sessions than during FTF ones, but also make more useful peer editing comments and incorporate more revisions in their own writings. Similarly, the study by Dubrovsky, Kiesler and Beheruz (1991) suggests that shy or under-confident writers will be able to get more out of peer group sessions if these sessions are conducted via CEM. Meanwhile, Cohen and Riel (1989), in their enthusiasm for CMC, went as far as to point out that computer networks "make it possible to increase the range of goals and audiences for students' writing, and in doing so may provide a first step in the reintegration of students into the larger society" (p. 156). Coogan (1995), in his dissertation, described the emerging use of CEM tutoring in teaching writing one-to-one at the undergraduate and graduate levels.

The influence of interactive communications channels, such as the Internet on global transactions, has resulted in a single, global computer network (Li & Hart, 1996; Stonehill, 1993). It was initially intended to support USA military establishments and was meant to allow the Department of Defense to develop computer electronic mail systems to link with its suppliers and bases. Up until the mid 1980's the technical and research communities dominated the use of this new technology network. However, starting in the late 80's and continuing into the 90's the Internet experienced explosive growth (Ellsworth, 1994; Laquey & Ryer, 1992; Kehoe, 1993). This is due largely to the advent of the World Wide Web (WWW or Web), the most important recent innovation in Internet Protocol (IP) technology. The use of Web browser software permits easy viewing of texts and information stored on computers all over the Internet, with the ability to display graphics, transmit sounds, and even play movies in the form of digitized video (Li & Hart, 1996). The organization of the Web, however, is somewhat chaotic due to the absence of a central controlling body, which might be responsible for producing a single all-inclusive table of contents or general index for the Web. Content providers create Web sites or home pages and assign them addresses known as Universal Resource Locators (URLs) in a manner that often seems arbitrary or random. Unfortunately, these addresses can be changed or removed altogether from the net without any notice (Li & Hart, 1996; Stonehill, 1993).

Despite these shortcomings the World Wide Web (WWW) is becoming a major source of material for students interested in practicing and improving their skills in a second or foreign language. As well as for teachers' who seek to supplement their lessons with authentic and highly desirable lessons, articles, books, and a variety of language

learning activities. According to Li and Hart (1996), the number of those utilizing the Web as means of instruction and information for ESL is rising dramatically. As Figure 4 depicts, global accesses to an ESL Web site homepage shows Korea with the greatest number of accesses to the ESL site with 8000 strokes for the month of August 1996. Followed by Japan with 6000 strokes; Canada and Australia, on average about 8500 strokes; Italy, Brazil, Hong Kong, and Taiwan with 500 strokes respectively; while Israel and Germany averaged less than 500 strokes for the month of August 1996. Generally, accesses from the United States totals about 46% of all global accesses to the ESL Web site.

Web-based ESL materials are under intensive development at many Internet locations. Many English institutes and centers now maintain their own Web sites advertising their intensive language programs, and many ESL professionals publish various Teachers of English to Speakers of Other Languages (TESOL) resources on the Web (Li and Hart, 1996), some proposed for ESL teachers and others for ESL learners. Some sites cover several aspects of ESL such as listening, speaking, reading, writing, and grammar, with links to other ESL-related information and sites or pages on the Web.

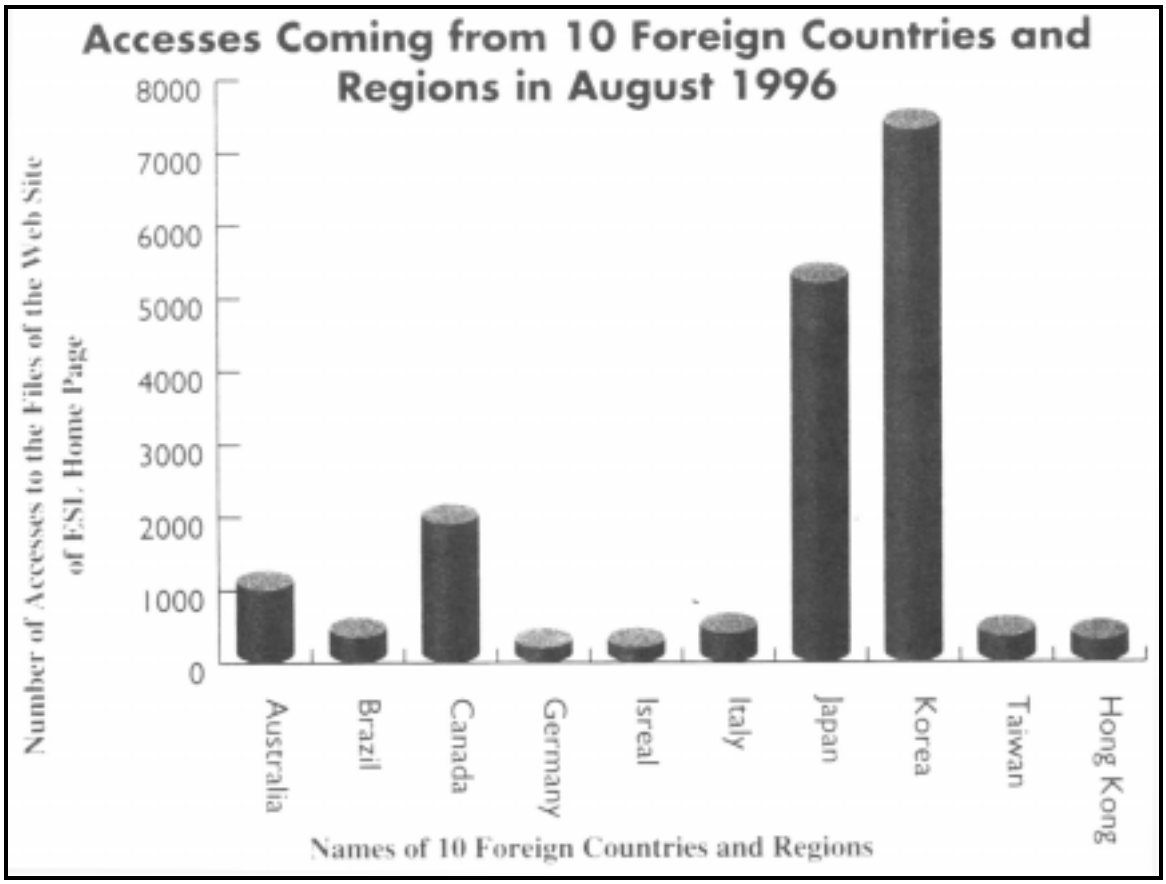

Figure 4. The frequency of access from foreign countries and regions to ESL homepage (Li & Hart, 1996)

Approaches to Teaching ESL Writing

The focus of this part of the literature review will be upon the following distinct views: (a) what is involved in second language learning (i.e. the second language learning task)? (b) what does the learner bring to the task; and, (c) what does the environment contribute to second language learning, and more specifically, writing? (Lindfors, 1980). According to Ellis (1986), any general theory of learning a second language must encompass all aspects of language acquisition including morphology, grammar, syntax, and pragmatic knowledge. This complex view of language acquisition has a multi-disciplinary focus that draws evidence from such disciplines as sociology, psychology,

and linguistics. Recent theories argue that such acquisition is dependent upon a host of factors that are the result of the interplay between the learner's environment and the cognitive mechanisms, which some scholars and theorists claim is innate. As Mclaughlin (1987) shows, the definition of both cognitive and environmental factors is under debate, and which is more influential is also widely contested in the plethora of literature dealing with this subject.

ESL research indicates that learners do not all acquire language in the same way or for the same purpose (Klein, 1986; Richard-Amato, 1988). For example, Klein (1986) argued that in order for learners to acquire a language certain conditions must be fulfilled. These conditions include a propensity for language learning, language faculty, and access to the target language. Meanwhile, Spolsky (1989), in his attempt to develop a general theory of second language learning, used a different set of conditions formulated in the following equation: Kf = Kp + A + M + O. He insisted that language knowledge and skills in the future (Kf) are a function of knowledge in the present (Kp), abilities (A), motivation affect (M), and opportunity (O) available to the learner. He goes as far as to claim that if any of these conditions are absent, no language learning will occur. Furthermore, he states that the strength of these conditions strongly affect the speed, structure, and state of a learner's acquisition of the target language.

In most ESL literature, researchers appear to be concerned with four conditions, which are the most widely researched and supported and make up a general model of optimal conditions for language learning environments (Egbert, 1993). These conditions stress the importance of authenticity and include the following: (a) Learners must be involved in authentic tasks that promote access to and production of varied and creative

language; (b) learners must be allowed the opportunity to interact and be exposed to meaning with authentic audience; (c) intentional cognition is encouraged to facilitate opportunities for learners to formulate thoughts and ideas; and (d) the creation and promotion of an atmosphere with ideal stress/anxiety level in a learner-centered interaction (Egbert & Jessup, 1996; Johnson, 1991; Kreeft-Peyton ,1990; Robinson, 1991; Zellermayer, Salomon, Globerson, & Givon, 1991). However, it seems that the most important condition in second language acquisition is the amount of interaction with native speakers. Spolsky (1989) puts it this way: "Whatever the language learner brings to the task, whether innate ability, a language acquisition device, attitudes, previous knowledge, or experience of languages and language learning, the outcome of language learning depends in large measure on the amount and kind of exposure to the target language" (p. 166).

The research findings on ESL writing showed that students use strategies similar to those used by native English speakers (Edelsky, 1982; Raimes, 1985; Zamel, 1982). In her study about the student writing process Zamel argued that "approaches to the teaching of composition that ESL teachers may have felt were only appropriate for native speakers may be effective for teaching all levels of writing, including ESL composition" (p. 203). Such findings were supported by many other studies, which found that ESL students face the same writing problems as English-speaking students. As a matter of fact, the shift from a product approach to a process approach in writing started first in the field of research on English as a first language. In the 1980's, studies revealed that writing does not follow rigid rules, nor does it occur in a straight and linear fashion as taught by the proponents of the product approach.

Instead of evaluating the final written product, researchers began to conduct studies focusing on the writing process in order to find out what writers actually do and what sort of problems they encounter while composing. A study by Mohan and Lo (1985) showed how ESL students were primarily trained to follow the product-centered model and were evaluated according to their mastery of textual features such as spelling, grammar, and rhetorical structures. This led students to ignore the importance of the flow and organization of ideas and thoughts. Similarly, Jones (1985) found that over-concern with grammar did not lead to improved writing. It actually "does not allow the learner to use his or her competence efficiently, and it interferes with the accomplishment of other cognitive tasks" (p. 115).

The product approach assumes that the learner's task is to make the structural patterns--especially syntactic structure of the second language--automatic habits by following prescribed linguistic forms; then the learner will insert ideas into these forms (Tylor, 1981). The process approach, in contrast, assumes the learner's task is to learn how the new language is used by its speakers through communicative and interactive contexts. It provides an environment in which learners are immersed in interactive writing experiences that involve diverse forms embedded in diverse communicative contexts, and in which learners are responded to and interacted with according to the meanings they convey rather than on the basis of the correctness of the forms they use. Furthermore, second language learners bring to the learning task certain attitudes toward their own and toward the target language and culture, their own preferred learning style, and their own unique personality. In addition, Lindfors (1980) observed that learners make many errors which "appear to be the result of trying to make the new language

structures (semantic, syntactic, phonological) conform to those they already know from their first language. Lacking a particular structure in the second language, learners will use the nearest equivalent from their first language" (p. 403).

ESL Measurement and Evaluation

Measuring progress in mastering English as a Second Language (ESL) takes on different formats depending upon the situation and the progress of the learning activities to be measured. Shrum and Glisan (1994) stated two basic principles that foreign language teachers should follow in developing tests. One is to test what was taught, and the other is to test it in a manner that reflects the way in which it was taught.

Testing can be classified as either summative or formative. Summative testing occurs at the end of a course to evaluate what has been taught and learned in total. Formative tests shape learners' on-going understanding and skills while teachers and learners still interact with purpose of enhancing learning. Shohamy (1990) has recommended that foreign language teachers make more use of formative testing in both the teaching and learning processes.

Two test frequently used for measuring foreign language progress are the discrete point test and the integrative or global test (Carroll, 1961). The discrete point test assesses linguistic elements one at a time, such as vocabulary, spelling, grammar, writing, and speaking. Its testing formats include true-false, sentence completion, matching, and multiple choice. This type of test measurement has been criticized for featuring unconnected sentences lacking meaningful context. Integrative tests measure a learner's ability to use various linguistic components at the same time. Shrum and Glisan (1994)

explain that integrative testing might ask students to listen to a taped segment, identify main ideas, and then use the information as the topic for discussion.

One other testing approach that has received the attention of many researchers in the field of language learning is pragmatic testing. According to Oller (1991), the pragmatic test allows learners to process authentic language within normal contextual constraints and then link that language to their own experiences. pragmatic tests, like other types of tests, involve linguistic contents such as vocabulary, syntax, grammar, and extralingustic contents such as gestures, the tone of voice speaking, indirect experiences (e.g., in writing), and the learner's own background and experiences (Shrum & Glison, 1994). Programmatic tests are integrative in nature because they use more than one linguistic skill to measure a student's progress. Essay writing, narration, oral interview, and role-playing are some examples of pragmatic tests.

Five kinds of tests differentiated according to the information gathered have been discussed by Oller (1991). These tests are briefly discussed below:

(1) Instructional. This kind of test instructs learners and enables them to improve in the target language.

(2) Managerial. This kind of test provides feedback to the teachers and to the learners. It also helps them to manage instruction and study practice used as a basis for grading.

(3) Motivational. Motivational tests serve as rewards urging students and teachers toward higher achievement relative to well-defined goals.

(4) Diagnostic. This test helps teachers and students identify specific instructional problems.

(5) Curricular. Good tests tend to define curriculum as a whole. (Oller, 991. p. 36).

As stated earlier, measuring ESL or foreign language progress can use various methods; these methods can be generally divided into qualitative and quantitative methods. In some cases, the research questions may involve both qualitative and quantitative testing methods. The features of these methods are briefly discussed in the next section.

Qualitative Inquiry

According to Strauss and Corbin (1990), “qualitative research is any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification” (p. 17). Qualitative research can be identified by many terms, including ethnography, naturalistic inquiry, case studies, field work, field studies, and participant observation (Ary, Jacobs, & Razavieh, 1996).

Lincoln and Guba (1985) stated that qualitative research methods provide advantages over quantitative methods because "they are more adaptable to dealing with multiple (and less aggregatable) realities. Because such methods expose more directly the nature of the transaction between investigator and respondent (or object) and hence make easier an assessment of the extent to which the phenomenon is described in terms of (is biased by) the investigator's own posture. And because qualitative methods are more sensitive to and adaptable to the many mutually shaping influences and value patterns that may be encountered" (p. 40).

According to Ary et al., (1996), qualitative research is grouped into two major categories: participant observation and non-participant observation. Other methods used in qualitative research are open-ended interviews and ethnographic studies. These are all briefly discussed below:

Participant Observation

In participant observation, the researcher becomes a part of the group being observed. The researcher observes, interviews, and participates in the actual activities performed by the group. The role of the researcher as observer may not be known by the group being observed; rather, the researcher becomes a participating member of the group and tries to share experiences with the members of the group. The role of the observer as researcher is hidden. In other situations, the researcher is openly associated with the group under study. The researcher participates in the group activities but his/her role as a researcher is known to those under study. Whether the identity of the researcher is known by the group under study or not depends upon the situations. Participant observation has the advantage of providing detailed results of the cases and groups being observed; the problem is that the researcher may get emotionally involved in the group and lose objectivity.

Non-Participant Observation

In non-participant observation, the researcher observes, but does not engage in the actual activity performed by the group under study. According to Ary et al., (1996), non-participant observation comes in three forms: naturalistic observation, case study, and

content analysis. In naturalistic observation, the researcher observes and records events as they naturally occur. No attempts would be made to alter the situation. The members of the group under study are not aware of the researcher's role, so their behavior does not change.

In case study observation, the researcher attempts to examine an individual or unit. The researcher's role is to discover all variables that are associated with the history or development of the subject. Stake (1995) writes, "Observations work the researcher toward greater understanding of the case" (p. 60). Stake (1995) also mentions that a qualitative approach to observation means choosing good moments that reveal the uniqueness of each case.

In content analysis the researcher analyzes written or visual materials in order to identify specific characteictics of the material. Materials that can be analyzed are textbooks, newspapers, speeches, advertisements, and television programs.

Open ended Interview

The open-ended interview is another means of collecting qualitative data. This is done by asking individuals questions about their behavior, this method is flexible. The participants are free to answer briefly or at length. The responses are normally recorded through note taking, Audiotape or Videotape.

Ethnographic Study

This is the use of direct observation and extended field research to produce a thick, naturalistic description of a people and their culture. It involves close examination

of the technical culture and active participation of scientists. Data is collected through direct observation, interview, and accumulation of documents generated by the research scientist.

Ethnographic research is used to refer to both the work of studying a culture or group and also the product of the research. Ethnographic research begins with a problem or topic of interest. A research problem is a statement about what the ethnographer wants to know. Ethnographic research findings can be communicated through newspaper releases, photographs, recordings, speech, and electronic communications systems such as CEM. Spradley (1979) pointed out that:

> "Ethnographic yields empirical data about the lives of people in specific situations and seeks to provide an understanding of culture from the perspective of those within the culture, offering an excellent strategy for establishing grounded theory" (p. 13).

The methods used in ethnographic study as described by Spradley are:

(1) Selecting an ethnographic project. This involves studying a whole complex society or a single social situation.

(2) Asking ethnographic questions. This demands that the researcher have questions that will serve as a guide to what he/she sees or hears as well as the collection of the data.

(3) Collecting ethnographic data. This involves fieldwork to study the activities of the people, physical characteristics of the situation, and what it feels to be a part of the situation.

(4) Making an ethnographic record. This involves taking field study notes and photographs, making maps, and using other relevant means to record observations.

(5) Analyzing ethnographic data. In this method, fieldwork is accompanied by data analysis. New questions and new hypotheses are generated; more data and field notes are collected and analyzed until the project is completed.

(6) Writing the ethnographic. The ethnography is written in a particular way so that readers are able to understand both the culture and the people studied.

Quantitative Research

Quantitative research, in contrast with qualitative research, uses objective measurement and numerical analysis of data to try to explain the causes of changes in social phenomena (Ary et al.; 1996).

Quantitative research is further classified as either experimental or non-experimental research. In experimental research, treatments (independent variables) are given to two or more groups. These groups are then compared to determine the effects of the treatment on another variable called the dependent variable.

In non-experimental research, the researcher identifies the variables and then looks for relationships among them, but does not manipulate the variables. Examples of non-experimental research are:

(1) Causal-comparative research looks like experimental research; however, the independent variable is not manipulated by the researcher but has already occurred in the natural course of events.

(2) Correctional research determines relationships among two or more variables. The level of that relationship is expressed in the form of a numerical index.

(3) Survey research uses instruments such as questionnaires and interviews to gather information from groups of subjects ((Ary et al.; 1996).

In conclusion, any of the testing, measurement, or data collection techniques discussed above can be used to measure ESL progress.

CHAPTER III

METHODOLOGY

Overview

This study was designed to examine the effects of the use of Computer Electronic Mail (CEM) on the performance and competence of native Kuwaiti middle level students (18-23 years old) studying English as a Second Language (ESL) at Kuwait University (KU). The aim was to investigate the potentials for improved ESL curriculum and instruction in the State of Kuwait through the exchange of CEM conversation among and between a sample group of native Arabic middle level speakers and a like sample of native American English speakers. This chapter describes the methodology used in the research.

Research Objective and Hypotheses

As indicated in Chapter One, the purpose of this research was to examine the utility of CEM as a tool for the teaching and learning of English as a Second Language among ESLKS. The specific objective was to examine the extent to which the use of CEM impacts the written English skills of middle level Kuwaiti students, as measured by participants' performance in English structure, syntax, spelling, vocabulary, and clarity of writing skills. To address those questions, the following specific hypotheses were examined:

- Hypothesis 1: There is no significant difference between pre-CEM and post-CEM scores in English sentence structure.

- Hypothesis 2: There is no significant difference between pre-CEM and post-CEM scores in English language syntax.
- Hypothesis 3: There is no significant difference between pre-CEM and post-CEM scores in English language spelling.
- Hypothesis 4: There is no significant between pre-CEM and post-CEM scores in English language vocabulary.
- Hypothesis 5: There is no significant difference between pre-CEM and post-CEM scores in the clarity of expression in English writing.

Another objective of the study was a survey of the participants' opinions and attitudes about CEM. The survey was designed to assess participants' perception of the relevance, usefulness, and effectiveness of CEM as a means of communication and as a tool for the learning of the English language.

Research Procedure

A pretest/posttest attitudinal and performance survey questionnaire was used to assess the disposition and competencies of Kuwaiti student participants regarding the use of CEM. Ethnographic studies that involved participant observation and closing focus interviews were used to gather relevant information related to the overall participants and use of CEM by "English as a Second Language Kuwaiti Students" (ESLKS).

A pretest was used to determine the students' initial competencies in English writing skills before the CEM-ESL program began. The program consisted of an orientation, an introduction to CEM, and a seven-week period of CEM exchanges/engagements training. CEM exchanges/engagements consisted of CEM communication between Kuwaiti ESL middle level students and Native American English speaking middle level students. CEM communication among participating

ESLKS and the instructor also transpired. After the completion of the seven weeks of CEM exchanges, a post attitudinal and performance questionnaire regarding CEM disposition and competency was administered to the students, and copies of their CEM exchanges were organized for review.

All data collected were examined in descriptive fashion as to the effects of the use of CEM on attitudes, as well as on both electronic and linguistic competencies.

Research Design

This research study used a pretest posttest group design method. It is assumed that participants will improve their writing skills such as sentence structures, syntax, spelling, vocabulary, and writing through the use of CEM. Figure 5 below shows the research study design.

Assignment	Group	Pretest	Treatment	Posttest
ESLKS-EFFECT	ESLKS	Y1	X (CEM)	Y2

Figure 5. The research study design.

Note:

ESLKS: represents English as a Second Language Kuwaiti Students participant.
Y1 : represents Pretest.
X (CEM) : represents Computer Electronic Mail (CEM) Treatment.
Y2 : represents Posttest.

Research Variables

The independent variable in this research study was the method of instruction, namely CEM instruction. The dependent variable was the students' performance and achievement in ESL study.

Population and Sample

The sample for this study consisted of middle level ESLKS at KU, in the College of Administrative Sciences in the State of Kuwait. Participating students were selected from the population of full-time ESLKS at KU. They were eight male students and eighteen female students who were assigned to the course entitled "Introduction to the Computer" (IC). The research began during the first week of May 1998 summer class semester.

Participating Instructor

The Kuwaiti instructor who participated in this research study received his Ph.D. degree in Information Systems from the USA and has taught computer classes for three years. His teaching experience covers a wide a range of courses offered in the Department of Quantitative Methods and Information Systems in the College of Administrative Sciences. Although he has good experience with and knowledge using CEM, he had not yet utilized the technology in his courses there. He was very interested in introducing CEM in his courses, and readily accepted to participating in the study, as well as overseeing the students during the seven-week training.

The instructor agreed that CEM could be a very good media to teach ESLKS. He indicated that by using this new technology, students would be able to communicate with Native American English speakers, and with the instructor, discussing culture, tradition, and general opinions. He perceived several new possibilities for CEM in the areas of programmed learning, exercises, and tests. He planned to use CEM for his class in the 1998 fall semester.

Location and Setting

The study was conducted in the "Introduction to the Computer" class during the 1998 summer semester at KU. The researcher and the class instructor assisted ESLKS on how to use CEM during this class. The goal of many ELSKS in the class was to pass all assignments, quizzes and the final exam

During the first week of study, the researcher and instructor gave the students a formal orientation, and introduction to CEM, and information about the study. CEM was included in the class syllabus for that semester and each student had to know about CEM technology and how to use it. The researcher distributed the survey questionnaire (pretest), and all students in the class responded to this questionnaire. During the seven weeks summer course students used CEM to communicate with Native American English speakers, the instructor and among themselves via CEM technology. After seven weeks, the researcher gave all the students in the class a second survey questionnaire (posttest).

The ESLKS and class instructor met each day from Saturday to Wednesday, for one hour and 30 minutes.

Kuwait University set up the Network system in the College of Administrative Sciences computer lab. The lab provided 20 computers and was open to the students from 8:00 AM. to 3:00 PM., Saturday to Wednesday.

Equipment (Software and Hardware)

The equipment for this research study consisted of 20 computers, located in the computer lab of the College of Administrative Sciences in KU. The students and the instructor used the software applications--Eudora and Hotmail (The World's Free Web-Based E-Mail).

The first program, called Eudora is a copyrighted product of QUALCOMM, Inc. Eudora is one of the most popular CEM programs used today. It is fast and super easy to use. Although not as flexible as Pine, Eudora will get users on the fast-track to the world of CEM (http://www.qualcomm.com).

Steve Dorner created Eudora at the University of Illinois Board of Trustees. Free availability on the Internet and ease of use quickly made it very popular. Even after moving to QUALCOMM in 1992, Eudora remains free ware, though a commercial version with some additional enhancement is also available (http://www.eudora.com).

The second program, called Hotmail (The World's Free Web-Based E-Mail) is embarking on a major information and communication revolution. The program's objectives, according to its designers, are: (a) to "change the way people communicate;" (b) increase or improve "flexibility," "accessibility," "privacy," "organization," and "integration;" and (c) minimize the cost and complexity of installing and using conventional e-mail programs, taking advantage of the simplicity and universality of the

Internet. Hotmail claims to offer free, advertising-supported personal and fully functional e-mail on the World Wide Web. Founded in 1995, Hotmail's vision is to make e-mail accessible to/from any computer with a Web browser from anywhere in the world (http://www.hotmail.com). The researcher made the necessary arrangements for the equipment and software to be used by the ESLKS selected.

Class CEM Procedure

Before the study started, the instructor and the researcher explained to the class the purpose of the study and emphasized the need for the students to participate in it.

The researcher met with all students in the first week of the research study and explained to them in detail what and how CEM technology is used in the educational system, and how students can write about their feelings, attitudes, and behavior, in an open-ended dialogue. The students were told that they could express their own ideas, and opinions, and relay information among and between themselves, the instructor, and Native American English speakers via CEM. During the seven week summer course, the students were required to respond to all messages and assignments sent by the instructor. They also had to participate in CEM discussions on the class listserv by responding via CEM to information and ideas expressed by other colleagues and the Native American English students. Their participate in these activities, as well as their attitude, affected their course grade. The ESLKS could communicate via CEM outside of class time, receiving and sending messages to other ESLKS, colleagues, Native American English speakers and the instructor every day (during open lab hours). The instructor also used CEM to engage in the open discussions and to answer students' questions.

CEM was a requirement during the semester work of the class. Each student had a folder, which included all CEM messages sent, and received or reply during the seven weeks of study.

ESLKS Training

In order for ESLKS to participate in the computer-networking project, they had to be given detailed instructions and training in the use of CEM and networking characteristics, such as log-on and log-off procedures, passwords, mailing aliases, and directory structures, to name only a few. The researcher made the necessary arrangements for orientation, introduction and training in the use of the CEM system chosen for the experiments, as well as the computer resources to track and organizes mail messages. Because the study involved the transmitting of documents as well as messages, students had to learn Eudora high-level mail programs and Hotmail-The World's Free Web-Based E-mail, which facilitate networking and file transfer procedures. These purely technical issues were addressed by some appropriate blend of teacher demonstration, hands-on practice sessions, and detailed handouts explaining fully the steps involved in the whole process of CEM use.

The KU set up the Network system in the computer lab at the College of Administrative Sciences.

The ESLKS were trained to use CEM in the computer lab. There were 20 PC's computer machines in the lab. A hotmail access account was opened for each student. It provides The World's Free Web-Based, what is available in the Internet system. They also could get CEM accounts from the university.

The researcher trained the ESLKS to use CEM technology. Each student was given one page of paper with printed information about all functions and commands the students would need to know. The students were taught just the simple basic commands and functions that allowed them to communicate with the instructor, his college colleagues, and the Native American English speakers via CEM.

The first training process for all students took about one hour and 30 minutes. Each student was also free to set other times with the researcher for instruction on how to use CEM.

After the training process, an account was opened for each student. Most students preferred to open their accounts through Hotmail; a few who opened their accounts with the university preferred to use the Eudora program. To open Hotmail accounts, the students were required to fill out registration forms about their personal background.

The Hotmail Service ("Service"), owned and operated by Hotmail. ("Hotmail"), is provided to you ("Member") under the terms and conditions of this Hotmail Terms of Service (HTS) and any operating rules or policies that may be published by Hotmail. The HTS comprises the entire agreement between Member and Hotmail and supersedes all prior agreements between the parties regarding the subject matter contained herein. By completing the registration process and clicking the "i accept" button, you are indicating your agreement to be bound by all of the terms and conditions of the HTS.

If the Hotmail service accepted the applicant's registration form, then the user received a first message from the Hotmail system establishing the account. Each student had to send a first CEM message to the instructor to let him know about the newly opened account and the CEM content (http://www.hotmail.com).

The researcher made himself available everyday in the computer lab to help students in the use of computers and in opening CEM accounts. He was also available to answer questions, and to respond to complaints and comments about the study. So, the researcher answered all questions expected from the students.

Instruments

The instruments that were used for this study were computers equipped with CEM programs, and survey questionnaires that were used to conduct pretest and posttest assessments of the performance of the ESLKS participants.

The survey was composed of four parts dealing with participant exposure to student demographic information, and ESL information; computer technology experience; and essay writing skills.

The first part of the pretest survey questionnaire contained an ethnographic portion asking questions about gender, academic major, age, social status, occupation, hobby, and parents' annual income. Second part contained questions dealing with ESL general student information. The third part addressed computer technology experience. Finally, the fourth part asked a question that they were to respond to by writing a short essay (see Appendix 1).

In the posttest survey questionnaire, the first part contained 15 items dealing with the student's opinions about using CEM. The second part contained 15 items dealing with self-attitude and behavior of the students regarding CEM. A third section dealt with questions on essay writing skills (see Appendix 2).

Methods of Data Collection

The research was designed as a qualitative study and the principal method of data collection was observation. According to Ary, et al., (1996), qualitative research is grouped into two major categories: participant observation and non-participant observation. Best and Kahn (1998) state that when observation is used in qualitative research, it usually consists of detailed notation of behaviors, events, and the contexts surrounding the events and behaviors. A major advantage of observation, according to Stake (1995), is to “work the researcher toward greater understanding of the case" (p.60).

In this study classroom observations were made by the instructor and researcher; the information gathered was used to compare and contrast differences and similarities in the participants' performances before and after the research study. During the seven weeks of study, the researcher attended class three times: (a) to deliver the orientation and introduction; (b) to train the students in the use of CEM; (c) to remind the students to collect all CEM messages and give to the instructor to evaluate.

The researcher was physically available everyday throughout the study. He sat in the lab, where ESLKS could send him CEM messages, if they have questions.

The data for this study were in the form of a short 4-part pretest survey questionnaire and 3-part posttest survey questionnaire. These instruments collected information on ESLKS learning characteristics, individual opinions, attitudes, and competency with the English Language.

The survey questionnaires were used in conjunction with tests to measure English structure, syntax, spelling, vocabulary, and the clarity of writing skills to account for the presence or absence of changes, and improvement in ESL skills as a result of using CEM.

Respondents were asked to read statements regarding ESLKS training. The survey questionnaires (pretest and posttest) included had carried a cover letter that explained the nature of the research study (see Appendix 1 and 2).

Problems and Limitation of the Study

A major problem for this study was the lack of access to computers equipped with CEM software in the state of Kuwait made this study very rigorous. The financial obligations that were required to carry out this type of study also deterred the researcher's efforts to extend the study for a considerable length of time.

Permission for the Study

Permission for this study was obtained from the researcher's Ph.D. committee adviser, Embassy of the State of Kuwait (Cultural Division) in USA, Public Authority for Applied Education and Training (PAAET), College of Basic Education (CBE) in Kuwait State, and the Kuwait University (KU). Permission was solicited through letters, fax, and the Computer Electronic Mail (CEM) system (see Appendix 3).

Data Analysis

Data from the survey questionnaires were analyzed using descriptive statistics. The data collected from the survey questionnaires were analyzed via computer using the Statistical Package for the Social Sciences (SPSS/PC and SPSS/Mac).

The descriptive statistical procedure was used for summary measurement including frequency and percentage. The *t*-test was used to test nominal data at a .05 level of significance.

Analysis of the survey questionnaire which was completed at the ending stage of the study by the participating students and administered by teachers, include quantitative and qualitative questions. The statistical analysis of the survey was complemented by a test of validity using a *t*-test for the continuous variables.

Time Line for the Study (1997-1998)

Data Collection	Oct	Nov	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Permission for the study	-----	-----	---								
Travel to the Kuwait State for the study				----							
Contact with KU and class instructor					----	-----					
Orientation for the study							-----				
Survey /Pretest and Training (CEM)							---				
ESLKS Communication via CEM								-----	---		
Record and Organize all CEM messages									--	---	
Survey /Posttest										----	
Data Analysis										-----	
Final Report										---	-----

Figure 6. Time line for the study

CHAPTER IV

RESULTS

Overview

The main purpose of this study was to examine the influence of the use of Computer Electronic Mail (CEM) on the English language competence and performance of native Kuwaiti middle level students age (18-23) studying English as a Second Language (ESL). The pretest posttest research was designed to find out whether or not CEM actually improves participants' structure, syntax, spelling, vocabulary, and writing scores. The subjects (subsequently referred to as "participants") in the study were 26 students in an “Introduction to the Computer (IC)” course at Kuwait University (KU) in the state of Kuwait. The data were obtained from survey questionnaires that were given to the participants before and after the course.

This chapter analyzes’ the result which is presented four major sections: (a) participants demographics; (b) ESL student’s information; (c) computer technology experience; and (d) tests of research hypotheses.

Demographic Student Information (DSI)

The sample for this study comprised 26 participants. Twenty-five of the subjects were middle level ESL students attending in Kuwait University in the state of Kuwait. One of the participants was a member of the university staff. The demographic background of the participants is presented in Tables 1-6 which indicates the participants’ gender, age, academic major, social status, occupation, hobby, fathers’ annual income,

and mothers' annual income. The data on these variables were collected during the pretest survey, and are indicated in the next six tables.

Table 1 is the distribution of the participants by gender and age. The table indicates that 18 (69.2%) of the participants were female, while 8 (30.8%) of them were male. Twenty-five of the participants were between 18 to 22 years of age. One (1) participant was 23 years old. Eleven students (42.3%) were 18 years of age, 6 (23.1%) were 19, and 4 (15.49%) were between 20 and 21 years. The participants' mean age was 19.19, with a standard deviation of 1.36.

Table 1

Frequency and Percentage of Gender and Age of the ESLKS

	Gender				Total	
	Female		Male			
	n	%	n	%	n	%
18	9	34.6	2	7.7	11	42.3
19	4	15.4	2	7.7	6	23.1
20	4	15.4	0	.0	4	15.4
21	1	3.8	3	11.5	4	15.4
23	0	.0	1	3.8	1	3.8
Total	18	69.2	8	30.8	26	100.0

Table 2 is the distribution of the participants by academic major. The table indicates that, of the 19 participants that responded to this item, one (1) majored in Marketing and Statistics. Six (31.6%) participants (3 females and 3 males) majored in Accounting. Nine (47.4%) participants (all female) majored in Administration. Computer Science and Chemistry had one (5.3%) male student each.

Table 2

Frequency and Percentage of Academic Major of Participants by Gender

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
	Marketing	1	5.3	0	.0	1	5.3
	Accounting	3	15.8	3	15.8	6	31.6
	Administration	9	47.4	0	.0	9	47.4
	Computer Science	0	.0	1	5.3	1	5.3
	Statistics	1	5.3	0	.0	1	5.3
	Chemistry	0	.0	1	5.3	1	5.3
Total		14	73.7	5	26.3	19	100.0

Note: Missing values are excluded from the table.

Table 3 is the distribution of the participants by social status, occupation, and gender. The table indicates that only one (3.8%) of the female participants was married. The other 17 (65.4%) were single. All eight male participants were not married. All (18) of the females in the study were students. Seven (26.9%) of the males were students, and one of them was a member of the school staff.

Table 3

Frequency and Percentage of Social Status, Occupation, and Gender of the ESLKS

			Gender		
			Female	Male	Total
Social Status	Married	n	1	0	1
		%	3.8	.0	3.8
	Single	n	17	8	25
		%	65.4	30.8	96.2
Total	n		18	8	26
	%		69.2	30.8	100.0
Occupation	Student	n	18	7	25
		%	69.2	26.9	96.2
	Staff	n	0	1	1
		%	.0	3.8	3.8
Total	n		18	8	26
	%		69.2	30.8	100.0

The pretest survey also covered other factors, including interests, computer skills, and exposure to computer technology, English speaking ability, and English writing ability. Table 4 depicts the participants' hobbies (interests). The table indicates that 4 females (19%) have music as their hobby. Six (28.6%) females and 5 (23.8%) males chose sports as their hobby. One female and one male participants spend their spare time on the computer or surfing the internet. Two (9.5%) female participants paint. One female participant spends most of her time watching movies or television. One female participant does much reading in her spare time.

Table 4

Frequency and Percentage of Gender and Hobby of the ESLKS

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
	Music	4	19.0	0	.0	4	19.0
	Sports	6	28.6	5	23.8	11	52.4
	Computer/Internet	1	4.8	1	4.8	2	9.5
	Painting	2	9.5	0	.0	2	9.5
	Watching Movie/TV.	1	4.8	0	.0	1	4.8
	Reading	1	4.8	0	.0	1	4.8
Total		15	71.4	6	28.6	21	100.0

Table 5 is the distribution of the participants by their fathers' annual income. The table indicates that 8 (30.6 %) of the participants have fathers with annual incomes between $30,000 and $36,000. Three (11.4%) of the participants have fathers with annual income between $40,000 and $45,000. The fathers of 2 (7.7%) of the participants have an annual income of $60,000. The annual income of the father of one of the participants is $24,000. One of the participants has a father whose annual income is $80,000. Ten of the participants did not respond to the question on father’s income.

Table 5

Frequency and Percentage of Fathers' Annual Income

		Frequency	Percent
	24400	1	3.8
	30800	1	3.8
	34935	1	3.8
	40000	1	3.8
	42800	1	3.8
	45000	1	3.8
	58500	1	3.8
	80000	1	3.8
	60000	2	7.7
	30000	3	11.5
	36000	3	11.5
	Total	16	61.5
Missing	0	10	38.5
	Total	10	38.5
Total		26	100.0

Table 6 is the distribution of the participants by their mothers' annual income. The table indicates that 1 (3.8 %) participant had a mother with annual income of $24,000. One other participant had a mother with annual income of $30,000. Another participant had a mother with annual income of $35,000. Still another participant had a mother with annual income of $45,000. Twenty-two of the participants did not respond to the question on mother's income.

Table 6

Frequency and Percentage of Mothers' Annual Income

		Frequency	Percent
	24400	1	3.8
	30000	1	3.8
	35000	1	3.8
	45000	1	3.8
	Total	4	15.4
Missing	0	22	84.6
	Total	22	84.6
Total		26	100.0

English as a Second Language Kuwait Student Information (ESLKSI)

Table 7 indicates the participants' background in the English language. Twelve (46.1%) females and 4 (15.4%) males had learned English for about 8 to 9 years, while 6 (23%) females and 4 (25.3%) males had studied the language for 10 to 12 years.

Tables 7

Relationship between Gender and Years Studying English in School

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
Studying English in school	8	3	11.5	2	7.7	5	19.2
	9	9	34.6	2	7.7	11	42.3
	10	3	11.5	3	11.5	6	23.1
	12	3	11.5	1	3.8	4	15.4
Total		18	69.2	8	30.8	26	100.0

Table 8 describes the degree (ranging from fair to excellent) of the participants' general knowledge of the English language. Four (15.4%) females and one male had a fair knowledge of the English language. Eight (30.8%) females and 4 (15.4%) males had good knowledge of the language, 4 (15.4%) females and 2 (7.7%) males had very good knowledge of the language, while 2 (7.7%) females and 1 male had excellent English language knowledge.

Table 8

Frequency and Percentage of Gender and Self-Perceptions General Knowledge of English Language of ESLKS

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
Scale	Fair	4	15.4	1	3.8	5	19.2
	Good	8	30.8	4	15.4	12	46.2
	Very Good	4	15.4	2	7.7	6	23.1
	Excellent	2	7.7	1	3.8	3	11.5
Total		18	69.2	8	30.8	26	100.0

Table 9 presents statistics of participants who had previously traveled to an English speaking country. The table indicates that 19 (75.0%) participants (13 females and 6 males) had previously traveled an English speaking country while 7 (25.0%) of them (5 females and 2 males) had not done so.

Table 9

Frequency and Percentage of Gender and Travel to an English Speaking other Country

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
Scale	Yes	13	50.0	6	23.1	19	73.1
	No	5	19.2	2	7.7	7	26.9
Total		18	69.2	8	30.8	26	100.0

Table 10 presents statistics of participants' ability to speak another language other than English. The table indicates that 9 (7 female and 2 male) participants speak French; 1 male speaks Turkish; 1 female speaks Persian; and 1 male respondent speaks Spanish. Fourteen participants did not respond to this item (see Table 10).

Tables 10

Frequency and Percentage of Gender of ESLKS Speaking Other Languages

			Gender		
			Female	Male	Total
Language	French	n	7	2	9
		%	58.3	16.7	75.0
	Turkish	n	0	1	1
		%	.0	8.3	8.3
	Persian	n	1	0	1
		%	8.3	.0	8.3
	Spanish	n	0	1	1
		%	.0	8.3	8.3
Total	n		8	4	12
	%		66.7	33.3	100.0

Table 11 presents a statistical distribution of the participants by regularity of English language usage by gender. The table indicates that 21 (80.8%) of the participants

speak English sometimes while 5 (19.2%) of them speak English always. The table also indicates that 3 (11.5%) of the female participants speak English always while 15 (57.7%) of them speak the language sometimes. Two (7.7%) of the male respondents speak English always and 6 (23.1%) of them do speak it sometimes.

Table 11

Frequency and Percentage of Gender of ESLKS Who Use English Language

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
Scale	Always	3	11.5	2	7.7	5	19.2
	Sometimes	15	57.7	6	23.1	21	80.8
Total		18	69.2	8	30.8	26	100.0

Table 12 presents the participants response to whether on not they read English literature and watch TV programs that are transmitted in English. The Table indicates that 10 (40%) of them read English books while 15 (60%) of them do not. Response to questions whether or not they listen to English songs and watch English TV programs indicate that 18 (72%) of them listen to English songs, while 7 (28%) of them do not. Twenty-three (92%) of the participants watch English TV programs, while 2 (8%) of them do not watch programs that are presented in that language.

Table 12

Frequency and Percentage of ESLKS Like to Read Books, Listen to Songs, and Watch TV English Language

	Reading English Books...		Listening English Songs		Watching English TV Programs	
	n	%	n	%	n	%
Yes	10	40.0	18	72.0	23	92.0
No	15	60.0	7	28.0	2	8.0
Total	25	100.0	25	100.0	25	100.0

Note: Missing values are excluded from the table.

Table 13 indicates that 13 (50%) of the participants agree that grammar is the hardest aspect of learning English language. Three (11.5%) participants think that vocabulary is the hardest part, while 2 (7.7%) feel that spelling is the hardest aspect of the English language to learn. Two (7.7%) of the respondents think that writing is the hardest part of all.

Table 13

Frequency and Percentage of Difficulties in English Language Learning

		Grammer	Vocabulary	Spelling	Writing
Not Mentioned	n	13	23	24	24
	%	50.0	88.5	92.3	92.3
Mentioned	n	13	3	2	2
	%	50.0	11.5	7.7	7.7
Total	n	26	26	26	26
	%	100.0	100.0	100.0	100.0

Table 14 presents participants' opinions about the importance of learning English language. Twenty-three (88.5%) of the participants (15 females and 8 males) think that

learning English language is important. Two females and no male participants think the English language is interesting. Only one female participant thinks the language is useful.

Table 14

Frequency and Percentage of ESLKS Regarding Think to Learn English Language

		Gender			
		Female		Male	
		n	%	n	%
Scale	Important	15	57.7	8	30.8
	Intersting	2	7.7	0	.0
	Useful	1	3.8	0	.0
Total		18	69.2	8	30.8

Computer Technology Experience (CTE)

The participants' computer technological background was investigated in order to identify their level of comfort with the use of a computer. Table 15 indicates that 16 (64%) out of the 25 participants that responded to this item have computers at home. Twenty-three (92%) out of the 25 participants that responded to this item have access to computers at the university laboratory. Twenty-two (84.6%) out of the total number of participants knew the meaning of the term "Internet". The Table also indicates that 9 (34.6%) of the total number of participants have attended some kind of Internet course or workshop. Nine (34.6%) out of the 23 participants that answered the question have access to Internet at home. Twenty-four (100%) out of the 24 participants that answered the question have access to Internet at the university. Of the total number of participants, 8 (30.8%) actually use the Internet at home, while 19 (73.1%) use it at university.

Table 15

Frequency and Percentage of ESLKS Computer Technology Experience

		Yes	No	Total
Have computer at home	n	16	9	25
	%	64.0	36.0	100.0
University provide computer lab	n	23	2	25
	%	92.0	8.0	100.0
Meaning of the Internet term	n	22	4	26
	%	84.6	15.4	100.0
Attended any Internet courses, workshop...etc.	n	9	17	26
	%	34.6	65.4	100.0
Access to the Internet from home	n	9	14	23
	%	39.1	60.9	100.0
Access to the Internet from University	n	24	0	24
	%	100.0	.0	100.0
Use the Internet at home	n	8	18	26
	%	30.8	69.2	100.0
Use the Internet from university	n	19	7	26
	%	73.1	26.9	100.0

Note: Missing values are excluded from the table

Table 16 presents statistics of the participants familiarity with CEM (Computer Electronic Mail). The table indicates that 19 (76%) out of 25 participants that responded to this item knew the meaning of CEM. Twenty-four (96%) of the 25 participants that responded had received training on how to use CEM. Fifteen (57.7%) of the participants would like to learn to use CEM technology.

Table 16

Frequency and Percentage of ESLKS' Desire and Using CEM technology

	Meaning of the CEM		Training to use CEM		Like to learn through the CEM technology	
	n	%	n	%	n	%
Yes	19	76.0	24	96.0	15	57.7
No	6	24.0	1	4.0	11	42.3
Total	25	100.0	25	100.0	26	100.0

Note: Missing values are excluded from the table.

Table 17 presents statistics on how the participants got introduced to CEM. Sixteen (16) participants responded to the question of how they first learned CEM. Table 17 indicates that 4 (25%) of the respondents first learned CEM through a friend. Six (37.5%) of the respondents indicated that they learned CEM through course work. Four (25%) participants mentioned school, while 2 (12.5%) of them said they learned CEM on their own initiative.

Table 17

Source of ESLKS' Initial Introduction to CEM

		n	%
	Friend	4	15.4
	Coursework	6	23.1
	School	4	15.4
	Own initiative	2	7.7
	Total	16	61.5
Missing	0	10	38.5
	Total	10	38.5
Total		26	100.0

Table 18 indicates the length of time that participants had had ESLKS' Computer Use. The table indicates that 12 (46.2%) of the participants had been using the computer for less than a year, while 14 (53.8%) had been using a computer for about 1 to 4 years (see Table 18).

Table 18

Frequency and Percentage of Length of Time of ESLKS' Computer Use

		n	%
Scale	Less than a year	12	46.2
	1-4 years	14	53.8
Total		26	100.0

Table 19 presents the statistics of participants familiarity with the computer. As the table indicates, 6 (23.1%) participants said they were very familiar; 13 (50%) participants said they were somewhat familiar; 6 (23. 1%) others said were somewhat unfamiliar. Only 1 participant indicated that she was very unfamiliar with the computer.

Table 19

Frequency and Percentage of ESLKS Familiarity with Computers

		n	%
Scale	Very Familiar	6	23.1
	Some What Familiar	13	50.0
	Some What Unfamiliar	6	23.1
	Very Unfamiliar	1	3.8
Total		26	100.0

Table 20 is the statistics on the amount of time that participants said they use the computer weekly. Twenty 20 (76%) of them indicated not more than 5 hours; 4 (15.4%)

participants said between 6 to 11 hours; and 1 participant indicated between 12 to 17 hours per week. Only 1 respondent indicated that he used the computer for more than 18 hours per week (see Table 20).

Table 20

Frequency and Percentage of ESLKS Weekly Computer Use

		n	%
Scale	0-5	20	76.9
	6-11	4	15.4
	12-17	1	3.8
	18-more	1	3.8
Total		26	100.0

Table 21 shows the various uses to which participants said they put the computer. Thirteen (50%) of them mentioned playing computer games; 9 (34.6%) participants said they use the computer for searching in the Internet; 13 (50%) participants said they use the computer for home work; 2 (7.7%) participants mentioned computer electronic mail; another 2 (7.7%) participants said they use the computer for searching for education-related issues.

Table 21

Frequency and Percentage of ESLKS Computer Activities

	Not Mentioned		Mentioned	
	n	%	n	%
Game	13	50.0	13	50.0
Internet	17	65.4	9	34.6
Homework	13	50.0	13	50.0
CEM	24	92.3	2	7.7
Search for education topic	24	92.3	2	7.7
Word Proc.	22	84.6	4	15.4

Table 22 shows the kind of computer programs that participants said they use. Nine (34.6%) of them said they use word processing; 2 (7.7%) participants use spreadsheets; 13 (50%) use PhotoShop; 1 participant uses a statistical package; and 2 (7.7%) others use language package software. Only one participant uses each of the following software: Microsoft office, graphic package, and an Internet browser.

Table 22

Frequency and Percentage of the Kind of Computer Application Used by ESLKS

	Not Mentioned		Mentioned	
	n	%	n	%
Word Proc.	17	65.4	9	34.6
Spread Sheet	24	92.3	2	7.7
Math Cad	13	50.0	13	50.0
PhotoShop	24	92.3	2	7.7
Statistical Package	25	96.2	1	3.8
Language Package	24	92.3	2	7.7
Microsoft Office	25	96.2	1	3.8
Graphic Package	25	96.2	1	3.8
Internet Browser	25	96.2	1	3.8

When the participants were asked what kinds of Internet technology communication tools they usually use, none of them had ever used the following tools: Veronica, Usenet Newsgroups, Listserv, Multi-User Dungeon (MUD), and Wide Area Information Servers (WAIS). Table 23 indicates the relative unfamiliarity of the participants with a number of other computer programs, including: File Transfer Protocol (FTP) (1 participant or 3.8%), Mosaic Browser (3 participants or 11.5%), Talk Chat (2 participants or 7.7%), Archie File (2 participants or 7.7%), Fax Mail (2 participants or 7.7%),) and TurboGopher Software (Gopher) (1 participant or 3.8%). The table indicates that most of the participants were good users of Computer Electronic Mail (CEM) (21 participants or 80.8%), Netscape Browser (used by 17, i.e., 65.4%), and Internet explorer (used by 8 of them, i.e., 30.8%). The other tools were marginally used by less than 7 (26.9%) of the participants (see Table 23).

Table 23

Frequency and Percentage of the Types of Internet Communication Tools

	Not Listed		Listed	
	n	%	n	%
CEM	5	19.2	21	80.8
File Transfer Protocol (FTP)	25	96.2	1	3.8
Netscape Browser	9	34.6	17	65.4
Mosaic Browser	23	88.5	3	11.5
Telnet	19	73.1	7	26.9
Talk Chat	24	92.3	2	7.7
Archie File	24	92.3	2	7.7
Internet Relay Chat (IRC)	19	73.1	7	26.9
Veronica	26	100.0	0	.0
Internet Explorer	18	69.2	8	30.8
Voice Mail	25	96.2	1	3.8
Usenet Newsgroups	26	100.0	0	.0
Fax Mail	24	92.3	2	7.7
Listserv (or Mailing Lists)	26	100.0	0	.0
TurboGopher Software (Gopher)	25	96.2	1	3.8
Multi - User Dungeon (MUD)	26	100.0	0	.0
Wide Area Information Servers (WAIS)	26	100.0	0	.0
World Wide Web (WWW)	19	73.1	7	26.9
Other tools	26	100.0	0	.0

The participants were asked to describe their overall computer skills on a scale of poor to excellent -- poor (1), fair (2), good (3), very good (4), and excellent (5). Table 23 presents participants responses. Out of the 25 that responded to this item, 1 (a female) participant stated that her computer skills are poor; 6 (24%) females and 2 (8%) males described their skills as fair; 8 (32%) females and 5 (20%) males described their computer skills as good; 2 participants (1 female and 1 male) indicated that their computer skills were very good; and 1 female described her computer skills as excellent. One participant failed to respond.

Table 24

Frequency and Percentage of the Overall Level of Computer Skill for the ESLKS

		Gender			
		Female		Male	
		n	%	n	%
Scale	Poor	1	4.0	0	.0
	Fair	6	24.0	2	8.0
	Good	8	32.0	5	20.0
	Very Good	1	4.0	1	4.0
	Excellent	1	4.0	0	.0
Total		17	68.0	8	32.0

The following section presents the results of the posttest survey that was given to the respondents after a week's training and six weeks of practical use of CEM. (see Appendix 1 and 2 for the survey instrument).

Part of the posttest was a survey of participants' opinions about CEM. The survey asked the participants to indicate the relevance, usefulness, and effectiveness of CEM as a means of communication and as a tool for the learning of the English language. Table 25a is the analysis of that data. As the findings indicate, participants perceive CEM as useful tool not only for the learning of English as a second language, but also for communication and for transmitting information, generating ideas, striking friendships, solving problems, and increasing work output. Analysis of the participants opinions by gender indicates no statistically significant differences between male and female participants (see Table 25b).

Table 25a presents participants responses to the survey, based on a 4-point Likert-type scale: (4) strongly agree (SA), (3) agree (A), (2) disagree (DA), and (1) strongly disagree (SD). Table 25b shows the mean and standard deviation of the distribution of the

entire 26 participants' answers regarding use of Computer Electronic Mail (CEM). In the issue of "usefulness of CEM in communicating," the mean for the 18 (10 'A' and 8 'SA') females and the 8 (3 'A' and 5 'SA') males were 3.44 and 3.63 respectively, with a standard deviation of 0.51 (females) and .52 (males). As a "gratifying tool for learning", the females (1 'D', 13 'A', and 4 'SA') had a mean of 3.17, and a standard deviation of .5, while the 7 male respondents (4 'A' and 3 'SA') had a mean of 3.43, with a standard deviation of .53. In the use of "CEM in learning English language" the females (1 'SD', 1 'D', 9 'A', 7 'SA') had a mean and standard deviation of 3.22 and .81 respectively, and for males (1 'D', 3 'A', 4 'SA'), 3.38 and .74 respectively. The only minor difference between the female and male respondents was found on the issue of "CEM as a good way to have better work." The female group (3 'D', 11 'A' and 4 'SA') had a mean of 3.06 and a standard deviation of .64, while the male group (1 'SD', 1 'D', 3 'A' and 3 'SA') has a mean of 3.00 and a standard deviation of 1.07 (see Table 25a).

Table 25a

Frequency and Percentage of the Opinions of Male and Female ESLKS CEM Use

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
CEM is Useful means for communicating	A	10	38.5	3	11.5	13	50.0
	SA	8	30.8	5	19.2	13	50.0
CEM is a gratifying tool for learning	D	1	4.0	0	.0	1	4.0
	A	13	52.0	4	16.0	17	68.0
	SA	4	16.0	3	12.0	7	28.0
CEM should be used in learning English	SD	1	3.8	0	.0	1	3.8
	D	1	3.8	1	3.8	2	7.7
	A	9	34.6	3	11.5	12	46.2
	SA	7	26.9	4	15.4	11	42.3
CEM should be taught in Kuwait colleges	D	2	7.7	1	3.8	3	11.5
	A	4	15.4	2	7.7	6	23.1
	SA	12	46.2	5	19.2	17	65.4
CEM is beneficial to transmitting information	D	2	7.7	0	.0	2	7.7
	A	10	38.5	4	15.4	14	53.8
	SA	6	23.1	4	15.4	10	38.5
CEM useful in generating idea	D	0	.0	1	3.8	1	3.8
	A	14	53.8	5	19.2	19	73.1
	SA	4	15.4	2	7.7	6	23.1
CEM facilitates knowing some one	D	1	4.0	0	.0	1	4.0
	A	10	40.0	5	20.0	15	60.0
	SA	6	24.0	3	12.0	9	36.0
CEM encourages information sharing	D	1	3.8	1	3.8	2	7.7
	A	9	34.6	4	15.4	13	50.0
	SA	8	30.8	3	11.5	11	42.3
CEM is a useful tool for knowing other cultures and values	D	1	3.8	0	.0	1	3.8
	A	12	46.2	4	15.4	16	61.5
	SA	5	19.2	4	15.4	9	34.6
CEM facilitates cooperation in problem solving	D	0	.0	1	3.8	1	3.8
	A	15	57.7	2	7.7	17	65.4
	SA	3	11.5	5	19.2	8	30.8
CEM is influential in commercial education and scholary purposes	D	2	7.7	2	7.7	4	15.4
	A	10	38.5	0	.0	10	38.5
	SA	6	23.1	6	23.1	12	46.2
CEM is effective for transmitting assigments	A	11	42.3	2	7.7	13	50.0
	SA	7	26.9	6	23.1	13	50.0
CEM saves effort time	D	2	8.0	1	4.0	3	12.0
	A	7	28.0	4	16.0	11	44.0
	SA	8	32.0	3	12.0	11	44.0
CEM is a good way to achieve better work	SD	0	.0	1	3.8	1	3.8
	D	3	11.5	1	3.8	4	15.4
	A	11	42.3	3	11.5	14	53.8
	SA	4	15.4	3	11.5	7	26.9
CEM consolidates understanding ESL	D	2	7.7	0	.0	2	7.7
	A	9	34.6	3	11.5	12	46.2
	SA	7	26.9	5	19.2	12	46.2

Table 25b

A Comparison of the Opinions of Male and Female ESLKS Using CEM

	Gender	N	Mean	Std. Deviation
CEM is Useful means for communicating	Female	18	3.44	.51
	Male	8	3.63	.52
CEM is a gratifying tool for learning	Female	18	3.17	.51
	Male	7	3.43	.53
CEM should be used in learning English	Female	18	3.22	.81
	Male	8	3.38	.74
CEM should be taught in Kuwait colleges	Female	18	3.56	.70
	Male	8	3.50	.76
CEM is beneficial in transmitting information	Female	18	3.22	.65
	Male	8	3.50	.53
CEM useful in generating idea	Female	18	3.22	.43
	Male	8	3.13	.64
CEM facilitates knowing some one	Female	17	3.29	.59
	Male	8	3.38	.52
CEM encourages information sharing	Female	18	3.39	.61
	Male	8	3.25	.71
CEM is a useful tool for knowing other cultures and values	Female	18	3.22	.55
	Male	8	3.50	.53
CEM facilitates cooperation in problem solving	Female	18	3.17	.38
	Male	8	3.50	.76
CEM is influential in commercial education and scholary purposes	Female	18	3.22	.65
	Male	8	3.50	.93
CEM is effective for transmitting assigments	Female	18	3.39	.50
	Male	8	3.75	.46
CEM saves effort time	Female	17	3.35	.70
	Male	8	3.25	.71
CEM is a good way to achieve better work	Female	18	3.06	.64
	Male	8	3.00	1.07
CEM consolidates understanding of ESL	Female	18	3.28	.67
	Male	8	3.63	.52

Continue Table 25b

T- Test of Opinions of the Male and Female ESLKS Using CEM

	t-test for Means		
	Sig.	t	df
CEM is Useful means for communicating	.416	-.828	24
CEM is a gratifying tool for learning	.270	-1.131	23
CEM should be used in learning English	.653	-.455	24
CEM should be taught in Kuwait colleges	.857	.182	24
CEM is beneficial in transmitting information	.299	-1.061	24
CEM useful in generating idea	.651	.458	24
CEM facilitates knowing some one	.743	-.332	23
CEM encourages information sharing	.613	.512	24
CEM is a useful tool for knowing other cultures and values	.241	-1.201	24
CEM facilitates cooperation in problem solving	.145	-1.507	24
CEM is influential in commercial education and scholary purposes	.385	-.884	24
CEM is effective for transmitting assigments	.096	-1.732	24
CEM saves effort time	.736	.341	23
CEM is a good way to achieve better work	.870	.166	24
CEM consolidates understanding of ESL	.206	-1.300	24

Note: There were no statistically differences between the groups at the 5 percent probability level.

Another part of the posttest was an attitude survey of participants' satisfaction with CEM. The survey asked the respondents to indicate the degree of their satisfaction with CEM as a tool for developing language skills, facilitating learning, building self-confidence, and helping in homework assignments. Table 26a is the analysis of that data.

The following is a summary of observed differences between male and female participants, item by item as depicted in Table 26a. “CEM can express my opinions freely”- the females (1 ‘D’, 10 ‘A’, and 7 ‘SA’) had a mean of 3.33 and 0.59, while the males (1 ‘SD’, 2 ‘D’, 1 ‘A’, and 4 ‘SA’) have a mean of 3.00 and a standard deviation of 1.20. “CEM is an easy and inexpensive tool”- the females’ (2 ‘D’, 9 ‘A’, and 7 ‘SA’) mean and standard deviation are 3.28 and .67 respectively, the males’ (1 ‘SD’, 2 ‘D’, 3

‘A’ and 2 ‘SA’) mean and standard deviation were 2.75 and 1.04 respectively. “CEM is a means of finding my own communication benefits”- females’ (11 ‘A’, and 7 ‘SA’) mean is 3.39 with a standard deviation of 0.50 and the males’ (2 ‘SD’, 3 ‘A’, and 3 ‘SA’) mean is 2.88 with a standard deviation of 1.25. “Use of CEM satisfies a lot of my communication needs”- females’ (4 ‘D’, 10 ‘A’, and 4 ‘SA’) mean and standard deviation are 3.00 and 0.69 respectively, for the males (2 ‘SD’, 1 ‘D’, 4 ‘A’, and 1 ‘SA’) the mean and standard deviation are 2.50 and 1.07 respectively; ‘CEM is fundamental way to do my homework’- females’ (1 ‘SD’, 3 ‘D’, 11 ‘A’, and 3 ‘SA’) mean is 2.89 and their standard deviation is .76, for the males (2 ‘SD’, 2 ‘D’, 2 ‘A’, and 2 ‘SA’) the mean and standard deviation are 2.50 and 1.20 respectively; and for the ‘use of CEM technology in my education’- the females (3 ‘D’, 8 ‘A’, and 7 ‘SA’) have a mean of 3.22 and a standard deviation of 0.73 while the males (2 ‘SD’, 1 ‘D’, 2 ‘A’, and 3 ‘SA’) have a mean of 2.75 and a standard deviation of 1.28.

Table 26a

Frequency and Percentage of the Attitudes Male and Female ESLKS Using CEM

		Gender				Total	
		Female		Male			
		n	%	n	%	n	%
CEM is useful developing skills in writing	D	3	11.5	1	3.8	4	15.4
	A	11	42.3	1	3.8	12	46.2
	SA	4	15.4	6	23.1	10	38.5
CEM is essential for my success as a learner	D	4	15.4	1	3.8	5	19.2
	A	10	38.5	5	19.2	15	57.7
	SA	4	15.4	2	7.7	6	23.1
CEM develops confidence in writing	SD			1	3.8	1	3.8
	D	3	11.5	1	3.8	4	15.4
	A	13	50.0	5	19.2	18	69.2
	SA	2	7.7	1	3.8	3	11.5
CEM gives confidence in communicating with native English speaker	D	1	3.8			1	3.8
	A	10	38.5	4	15.4	14	53.8
	SA	7	26.9	4	15.4	11	42.3
CEM increaswd my interest to endure learning English Language	SD			1	3.8	1	3.8
	D	3	11.5			3	11.5
	A	10	38.5	4	15.4	14	53.8
	SA	5	19.2	3	11.5	8	30.8
CEM enables me to express my opinions freely	SD			1	3.8	1	3.8
	D	1	3.8	2	7.7	3	11.5
	A	10	38.5	1	3.8	11	42.3
	SA	7	26.9	4	15.4	11	42.3
CEM easy and inexpensive tool	SD			1	3.8	1	3.8
	D	2	7.7	2	7.7	4	15.4
	A	9	34.6	3	11.5	12	46.2
	SA	7	26.9	2	7.7	9	34.6
CEM found my own benefit	SD			2	7.7	2	7.7
	A	11	42.3	3	11.5	14	53.8
	SA	7	26.9	3	11.5	10	38.5
CEM meets my needs	SD			2	7.7	2	7.7
	D	4	15.4	1	3.8	5	19.2
	A	10	38.5	4	15.4	14	53.8
	SA	4	15.4	1	3.8	5	19.2
CEM enabled me to contact many other people	A	8	30.8	3	11.5	11	42.3
	SA	10	38.5	5	19.2	15	57.7
CEM was recommended by my friend	D	11	42.3	5	19.2	16	61.5
	A	7	26.9	1	3.8	8	30.8
	SA			2	7.7	2	7.7
CEM is a way to do my homeworks	SD	1	3.8	2	7.7	3	11.5
	D	3	11.5	2	7.7	5	19.2
	A	11	42.3	2	7.7	13	50.0
	SA	3	11.5	2	7.7	5	19.2
CEM gives me opportunity to discuss witht people	D	2	7.7	1	3.8	3	11.5
	A	10	38.5	3	11.5	13	50.0
	SA	6	23.1	4	15.4	10	38.5
CEM doesn't fatigue me mentally	SD	1	3.8			1	3.8
	D	7	26.9	3	11.5	10	38.5
	A	7	26.9	4	15.4	11	42.3
	SA	3	11.5	1	3.8	4	15.4
I am happy to use CEM technology	SD			2	7.7	2	7.7
	D	3	11.5	1	3.8	4	15.4
	A	8	30.8	2	7.7	10	38.5
	SA	7	26.9	3	11.5	10	38.5

Table 26b presents an analysis of the differences in participants' attitude to CEM. The purpose in this case was to see if there were any differences between male and female participants in their attitudes towards the new technology. As the findings indicate, participants seem to be generally satisfied with CEM as useful tool both for developing language skills, facilitating learning, building self-confidence in contacting and communicating with other people, stimulating interest in the learning of the English language, and helping in homework assignments. Analysis of the participants responses by gender indicates no statistically significant differences between male and female participants, with the exception of the first item "CEM is useful in developing skills in writing." Male respondents had a higher mean score (x= 3.63) than their female counterparts (x=3.06). The difference is significant at the .05 probability level.

Table 26b

A Comparison of the Attitudes of Male and Female ESLKS Using CEM

	Gender	N	Mean	Std. Deviation
CEM is useful to developing skills in writing	Female	18	3.06	.64
	Male	8	3.63	.74
CEM is essential for my success as a learner	Female	18	3.00	.69
	Male	8	3.13	.64
CEM develops confidence in writing by using CEM	Female	18	2.94	.54
	Male	8	2.75	.89
CEM gives confidence in communicating with native English speaker	Female	18	3.33	.59
	Male	8	3.50	.53
CEM increased my interest to continue earning English Language	Female	18	3.11	.68
	Male	8	3.13	.99
CEM enables me to express my opinions freely	Female	18	3.33	.59
	Male	8	3.00	1.20
CEM is easy and inexpensive tool	Female	18	3.28	.67
	Male	8	2.75	1.04
Using CEM is to my own benefit	Female	18	3.39	.50
	Male	8	2.88	1.25
CEM meets my needs	Female	18	3.00	.69
	Male	8	2.50	1.07
CEM enabled me to contact many other people	Female	18	3.56	.51
	Male	8	3.63	.52
CEM was recommended by friend	Female	18	2.39	.50
	Male	8	2.63	.92
CEM is a good way to do my homeworks	Female	18	2.89	.76
	Male	8	2.50	1.20
CEM gives me opportunity to discuss with other people	Female	18	3.22	.65
	Male	8	3.38	.74
CEM doesn't fatigue me mentality	Female	18	2.67	.84
	Male	8	2.75	.71
I am happy to use CEM in technology	Female	18	3.22	.73
	Male	8	2.75	1.28

Continue Table 26b

T- Test of Attitude of the Male and Female ESLKS Using CEM

	t-test for Means		
	Sig.	t	df
CEM is useful to developing skills in writing	.057	-1.996	24
CEM is essential for my success as a learner	.666	-.437	24
CEM develops confidence in writing by using CEM	.495	.694	24
CEM gives confidence in communicating with native	.503	-.679	24
CEM increased my interest to continue learning English	.967	-.042	24
CEM enables me to express my opinions freely	.346	.961	24
CEM is easy and inexpensive tool	.131	1.565	24
Using CEM is to my own benefit	.141	1.522	24
CEM meets my needs	.162	1.441	24
CEM enabled me to contact many other people	.753	-.318	24
CEM was recommended by friend	.401	-.854	24
CEM is a good way to do my homeworks	.323	1.008	24
CEM gives me opportunity to discuss with other people	.600	-.531	24
CEM doesn't fatigue me mentality	.809	-.244	24
I am happy to use CEM in technology	.242	1.199	24

Note: With the exception of I tem 1 "CEM is useful in developing skills in writing" there were no statistically significant differences between the two groups.

A major part of the study was testing the participants' abilities and skills in using CEM in learning the English language. They were tested before and after a week's training and six weeks' practical use of CEM. The test enabled the researcher to compare participants' pre-CEM and post-CEM performance in the English language. The comparison was based on participants' scores in English sentence structure, syntax, spelling, vocabulary, and clarity of writing skills. Pretest and posttest scores were graded as poor, fair, good, very good and excellent.

A comparison of pretest and posttest scores show general improvement in all five dimensions of the test measurement. Detailed findings are presented in the Tables 27a to 31b.

Table 27a presents participants pretest and posttest scores in the English sentence structure. The table indicates that: (a) the number of participants who performed poorly in this dimension dropped from 10 in the pretest to 4 in the posttest; (b) the number of participants who scored "fair" and "good" increased from 14 to 18; and (c) the number of participants who scored "very good" and "excellent" increased from 2 to 4.

Table 27a

Frequency and Percentage of Pretest Posttest Scores in Sentence Structure

	Pre_Structure		Post_Structure	
	Frequency	Percent	Frequency	Percent
Poor	10	38.5	4	15.4
Fair	7	26.9	6	23.1
Good	7	26.9	12	46.2
Very Good	1	3.8	2	7.7
Excellent	1	3.8	2	7.7
Total	26	100.0	26	100.0

Table 27b is a comparison of pretest and posttest scores between male and female participants in sentence structure. The table indicates that: (a) the number of males who performed poorly in this dimension remained the same in both the pretest and posttest, while the number of females who also performed poorly in sentence structure dropped from 9 to 3; (b) the number of males who scored "fair" in sentence structure dropped from 3 in the pretest to 2 in the posttest, while the number of females who also scored "fair" in this dimension remained the same in both the pretest and posttest; (c) the number of males who scored "good" in sentence structure decreased from 4 in the pretest to 3 in the posttest, while the number of females who scored "good" in this dimension increased from 3 in the pretest to 9 in the posttest; and (d) the number of males participants who

scored "very good" and "excellent" in sentence structure increased from 0 in the pretest to 2 in the posttest, while the number of females who also scored "very good" and "excellent" in this dimension remained the same in both the pretest and posttest.

Table 27b

Comparison of Pretest Posttest Scores between Gender in Sentence Structure

	Gender							
	Female				Male			
	Pre_Structure		Post_Structure		Pre_Structure		Post_Structure	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Poor	9	50.0	3	16.7	1	12.5	1	12.5
Fair	4	22.2	4	22.2	3	37.5	2	25.0
Good	3	16.7	9	50.0	4	50.0	3	37.5
Very Good	1	5.6	1	5.6	0	.0	1	12.5
Excellent	1	5.6	1	5.6	0	.0	1	12.5
Total	18	100.0	18	100.0	8	100.0	8	100.0

Table 28a presents participants pretest and posttest scores in syntax. The table indicates that: (a) the number of participants who performed poorly in this dimension dropped from 9 in the pretest to 5 in the posttest; (b) the number of participants who scored "fair" and "good" increased from 14 to 15; and (c) the number of participants who scored "very good" and "excellent" increased from 3 to 6.

Table 28a

Frequency and Percentage of Pretest Posttest Scores in Syntax

	Pre_Syntax		Post_Syntax	
	Frequency	Percent	Frequency	Percent
Poor	9	34.6	5	19.2
Fair	7	26.9	2	7.7
Good	7	26.9	13	50.0
Very Good	2	7.7	5	19.2
Excellent	1	3.8	1	3.8
Total	26	100.0	26	100.0

Table 28b is a comparison of pretest and posttest scores between male and female participants in syntax. The table indicates that: (a) the number of males who performed poorly in this dimension decreased from 3 in the pretest to 1 in the posttest, while the number of females who also performed poorly in syntax dropped from 6 to 4; (b) the number of males who scored "fair" in composition structure remained the same in both the pretest and posttest, while the number of females who also scored "fair" in this dimension decreased from 6 in the pretest to 1 in the posttest; (c) the number of males who scored "good" in structure remained the same in both the pretest and posttest, while the number of females who scored "good" in this dimension increased from 3 in the pretest to 9 in the posttest; and (d) the number of males participants who scored "very good" and "excellent" in composition structure increased from 0 in the pretest to 2 in the posttest, while the number of females who also scored "very good" and "excellent" in this dimension increased from 3 in the pretest to 4 in the posttest.

Table 28b

A Comparison of Pretest Posttest Scores between Gender in Syntax

	Gender							
	Female				Male			
	Pre_Syntax		Post_Syntax		Pre_Syntax		Post_Syntax	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Poor	6	33.3	4	22.2	3	37.5	1	12.5
Fair	6	33.3	1	5.6	1	12.5	1	12.5
Good	3	16.7	9	50.0	4	50.0	4	50.0
Very Good	2	11.1	3	16.7	0	.0	2	25.0
Excellent	1	5.6	1	5.6	0	.0	0	.0
Total	18	100.0	18	100.0	8	100.0	8	100.0

Table 29a presents participants pretest and posttest scores in English spelling. The table indicates that: (a) the number of participants who performed poorly in this dimension dropped from 4 in the pretest to 2 in the posttest; (b) the number of participants who scored "fair" also dropped, from 11 to 6; (c) the number of participants who scored "good" increased from 4 to 8; and (d) the number of participants who scored "very good" and "excellent" increased from 7 to 10.

Table 29a

Frequency and Percentage of Pretest Posttest Scores in Spelling

	Pre_Spelling		Post_Spelling	
	Frequency	Percent	Frequency	Percent
Poor	4	15.4	2	7.7
Fair	11	42.3	6	23.1
Good	4	15.4	8	30.8
Very Good	2	7.7	4	15.4
Excellent	5	19.2	6	23.1
Total	26	100.0	26	100.0

Table 29b is a comparison of pretest and posttest scores between male and female participants in English spelling. The table indicates that: (a) the number of males who performed poorly in spelling increased from 0 in the pretest to 1 in the posttest, while the number of females who also performed poorly in spelling dropped from 4 to 1; (b) the number of males who scored "fair" in spelling dropped from 4 in the pretest to 1 in the posttest, while the number of females who also scored "fair" in this dimension decreased from 7 in the pretest to 5 in the posttest; (c) the number of males who scored "good" in spelling increased from 1 in the pretest to 2 in the posttest, while the number of females who scored "good" in this dimension increased from 3 in the pretest to 6 in the posttest; and (d) the number of males participants who scored "very good" and "excellent" in spelling increased from 3 in the pretest to 4 in the posttest, while the number of females who also scored "very good" and "excellent" in this dimension increased from 4 in the pretest to 6 in the posttest.

Table 29b

Comparison of Pretest Posttest Scores between Gender in English Spelling

	Gender							
	Female				Male			
	Pre_Spelling		Post_Spelling		Pre_Spelling		Post_Spelling	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Poor	4	22.2	1	5.6	0	.0	1	12.5
Fair	7	38.9	5	27.8	4	50.0	1	12.5
Good	3	16.7	6	33.3	1	12.5	2	25.0
Very Good	1	5.6	2	11.1	1	12.5	2	25.0
Excellent	3	16.7	4	22.2	2	25.0	2	25.0
Total	18	100.0	18	100.0	8	100.0	8	100.0

Table 30a presents participants pretest and posttest scores in English vocabulary. The table indicates that: (a) the number of participants who performed poorly in this dimension dropped from 5 in the pretest to 2 in the posttest; (b) the number of participants who scored "fair" also dropped, from 12 to 11; (c) the number of participants who scored "good" dropped from 6 to 3; and (d) the number of participants who scored "very good" and "excellent" increased from 3 to 11.

Table 30a

Frequency and Percentage of Pretest Posttest Scores in Vocabulary

	Pre_Vocabulary		Post_Vocabulary	
	Frequency	Percent	Frequency	Percent
Poor	5	19.2	2	7.7
Fair	12	46.2	10	38.5
Good	6	23.1	3	11.5
Very Good	1	3.8	8	30.8
Excellent	2	7.7	3	11.5
Total	26	100.0	26	100.0

Table 30b is a comparison of pretest and posttest scores between male and female participants in the English vocabulary. The table indicates that: (a) the number of males who performed poorly in vocabulary dropped from 2 in the pretest to 0 in the posttest, while the number of females who also performed poorly in vocabulary dropped from 3 to 2; (b) the number of males who scored "fair" in spelling increased from 2 in the pretest to 3 in the posttest, while the number of females who also scored "fair" in this dimension decreased from 10 in the pretest to 7 in the posttest; (c) the number of males who scored "good" in vocabulary dropped from 4 in the pretest to 2 in the posttest, while the number of females who scored "good" in this dimension dropped from 2 in the pretest to 1 in the

posttest; and (d) the number of males participants who scored "very good" and "excellent" in vocabulary increased from 0 in the pretest to 3 in the posttest, while the number of females who also scored "very good" and "excellent" in this dimension increased from 3 in the pretest to 8 in the posttest.

Table 30b

Comparison of Pretest Posttest Scores between Gender in English Vocabulary

	Gender							
	Female				Male			
	Pre_Vocabulary		Post_Vocabulary		Pre_Vocabulary		Post_Vocabulary	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Poor	3	16.7	2	11.1	2	25.0	0	.0
Fair	10	55.6	7	38.9	2	25.0	3	37.5
Good	2	11.1	1	5.6	4	50.0	2	25.0
Very Good	1	5.6	6	33.3	0	.0	2	25.0
Excellent	2	11.1	2	11.1	0	.0	1	12.5
Total	18	100.0	18	100.0	8	100.0	8	100.0

Regarding English to the clarity of writing, the number of participants who did better than the poor grade increased by 33%. Participants who obtained the "good" grade increased by 175% in the posttest, while those who obtained the "poor" grade decreased by 300%. Table 31a presents participants pretest and posttest scores in this dimension. The table indicates that: (a) the number of participants who performed poorly in English writing dropped from 8 in the pretest to 2 in the posttest; (b) the number of participants who scored "fair" also dropped, from 8 to 5; (c) the number of participants who scored "good" increased from 4 to 11; and (d) the number of participants who scored "very good" and "excellent" increased from 6 to 8.

Table 31a

Frequency and Percentage of Pretest Posttest Scores in Clarity of Writing

	Pre_Writing		Post_Writing	
	Frequency	Percent	Frequency	Percent
Poor	8	30.8	2	7.7
Fair	8	30.8	5	19.2
Good	4	15.4	11	42.3
Very Good	4	15.4	5	19.2
Excellent	2	7.7	3	11.5
Total	26	100.0	26	100.0

Table 31b is a comparison of pretest and posttest scores between male and female participants in the English writing. The table indicates that: (a) the number of males who performed poorly in writing dropped from 2 in the pretest to 1 in the posttest, while the number of females who also performed poorly in writing dropped from 6 to 1; (b) the number of males who scored "fair" in spelling decreased from 3 in the pretest to 2 in the posttest, while the number of females who also scored "fair" in this dimension decreased from 5 in the pretest to 3 in the posttest; (c) the number of males who scored "good" in English writing increased from 2 in the pretest to 4 in the posttest, while the number of females who scored "good" in this dimension dropped from 2 in the pretest to 7 in the posttest; and (d) the number of males participants who scored "very good" and "excellent" in English writing remained the same in both the pretest and posttest, while the number of females who scored "very good" and "excellent" in this dimension increased from 5 in the pretest to 7 in the posttest.

Table 31b

Comparison of Pretest Posttest Scores between Gender in English Writing

	Gender							
	Female				Male			
	Pre_Writing		Post_Writing		Pre_Writing		Post_Writing	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Poor	6	33.3	1	5.6	2	25.0	1	12.5
Fair	5	27.8	3	16.7	3	37.5	2	25.0
Good	2	11.1	7	38.9	2	25.0	4	50.0
Very Good	3	16.7	4	22.2	1	12.5	1	12.5
Excellent	2	11.1	3	16.7	0	.0	0	.0
Total	18	100.0	18	100.0	8	100.0	8	100.0

Tests of Hypotheses

This section deals with the statistical analysis of the data generated from the survey questionnaire. The researcher used the 0.05 level of significance as a standard for accepting or rejecting the null hypotheses.

Hypothesis 1

H_0: There is no significant difference between Pre-CEM and Post-CEM scores in English sentence structure.

H_1: CEM improves English sentence structure scores.

Since the same subjects were tested before and after introduction of CEM, the paired t-test was used to ascertain the mean difference for structure scores between posttest and pretest. The test is 1-tailed since we are hypothesizing that CEM improves the structure scores.

Table 32 shows that the mean for posttest is larger. Results from paired t-test show that there was a significant difference between posttest and pretest sentence structure scores. The results support the hypothesis that CEM actually improves participants' performance in sentence structure.

Table 32

Paired t-test for Sentence Structure Scores for ESLKS (N=26)

Variables	Mean	Standard Deviation	t-value	1-tailed p-value
Posttest	2.69	1.09		
			3.33	.002
Pretest	2.08	1.09		

Hypothesis 2

H_0: There is no significant difference between Pre-CEM and Post-CEM scores in English language syntax.

H_1: CEM improves Syntax scores.

Table 33 shows that the mean for Posttest is larger. Results from paired t-test show that there was a significant difference between posttest and pretest syntax scores. The results support the hypothesis that CEM actually improves participants' performance in syntax.

Table 33

Paired t-test for Syntax Scores for ESLKS (N=26)

Variables	Mean	Standard Deviation	t-value	1-tailed p-value
Posttest	2.81	1.10		
			3.33	.002
Pretest	2.19	1.13		

Hypothesis 3

H_0: There is no significant difference between Pre-CEM and Post-CEM scores in English spelling.

H_1: CEM improves spelling scores

Table 34 shows that the mean for post-test is larger. However, results from paired t-test show that there was no significant difference between posttest and pretest spelling scores at the 0.05 probability level. The results indicate that CEM actually improves participants' performance in English spelling and the improvement is significant at .07 probability level.

Table 34

Paired t-test for Spelling Scores for ESLKS (N=26)

Variables	Mean	Standard Deviation	t-value	1-tailed p-value
Posttest	3.23	1.27	1.91	.068
Pretest	2.73	1.37		

Note: For the hypotheses, a significance level of .07 is used.

Hypothesis 4

H_0: There is no significant difference between Pre-CEM and Post-CEM scores in English vocabulary

H_1: CEM improves vocabulary scores

Table 35 shows that the mean for posttest is larger. Results from paired t-test show that there was a significant difference between posttest and pretest vocabulary scores. The results support the hypothesis that CEM actually improves participants' performance in English vocabulary.

Table 35

Paired t-test for Vocabulary Scores for ESLKS (N=26)

Variables	Mean	Standard Deviation	t-value	1-tailed p-value
Posttest	3.00	1.09		
			3.41	.001
Pretest	2.35	1.09		

Hypothesis 5

H_0: There is no significant difference between Pre-CEM and Post-CEM scores in the clarity of English language writing.

H_1: CEM improves the clarity of English language writing scores

Table 36 shows mean for posttest is larger. Results from paired t-test shows that there was a significant difference between posttest and pretest writing scores. The results support the hypothesis that CEM actually improves the clarity of participants' writing.

Table 36

Paired t-test for Writing Scores for ESLKS (N=26)

Variables	Mean	Standard Deviation	t-value	1-tailed p-value
Posttest	3.08	1.09		
			3.64	.001
Pretest	2.38	1.30		

Summary of Findings

The findings of the study indicate the usefulness of CEM as tool for the study of English as a second language among ESLKS. Statistically significant differences were observed in pre-CEM and post-CEM scores in sentence structure, syntax, spelling, vocabulary, and the clarity of writing skills. The study also indicates participants' overall satisfaction with CEM as useful tool both for developing language skills, facilitating learning, building self-confidence in contacting and communicating with other people, stimulating interest in the learning of the English language, and helping in homework assignments. Participants also seem to perceive the relevance of CEM not only in the learning of English as a second language, but also in communication and in transmitting information, generating ideas, striking friendships, solving problems, and increasing work output.

CHAPTER V

CONCLUSION

Introduction

This chapter summarizes the results of the study and indicates their practical implications both for the learning English as a Second Language (ESL) and also for educational policy in the State of Kuwait. The limitations are noted and recommendations are made for further research.

Design Overview

The primary focus of the study was to investigate the utility, relevance, and efficacy levels in the application of Computer Electronic Mail (CEM) as a tool for the teaching and learning of English as a Second language by Kuwaiti Students (ESLKS). The data generated were analyzed and the results are presented in chapter 4.

As indicated in Chapter 4 the sample for the study consisted of 26 participants (18 females and 8 males) selected from the population of full time ESLKS in Kuwait University. The design of the study involved a pre-CEM, a detailed CEM orientation and training, continued CEM support and a post-CEM. The purpose of the pretest and posttest was to assess the impact of CEM on the participants' competence in five critical English language skills: sentence structure, vocabulary, syntax, spelling, and clarity of writing. Between the pretest and posttest, participants were given in total seven weeks training and practice in the use of CEM.

Another dimension of the study was a survey of the participants' opinions and attitudes about CEM. The opinion component of the survey was designed to assess how

the participants' perceived CEM in terms of relevance, usefulness, and effectiveness as a means of communication and as a tool for the learning of the English language, transmitting information, generating ideas, striking up friendships, solving problems, and increasing work output. The attitude component of the survey was designed to assess participants' feelings toward CEM as a tool for developing writing skills, facilitating learning, building self-confidence in contacting and communicating with other people, stimulating interest in the learning of the English language, and helping in homework.

A profile of the participants indicates that all of them were between 18 to 23 years old. Eleven (42.3%) of them had studied the English language in school for about 9 years. Ten (40%) of them also indicated that they usually read English books; 72% enjoy listening to English songs; 73.1% had traveled to an English speaking country; and 92% often watch English television programs. Twenty-three (88.5%) of the 26 participants agreed that the English language is an important language to learn. Sixteen (64.0%) ESLKS indicated that they were using computer at home; 23 (92.0%) of them indicated they were using the computer in their university. Twenty-two (84.6%) ESLKS knew the meaning of the Internet terminology; 8 (30.8%) of them indicated that they use the Internet at home; 19 (73.1%) of them had used the Internet at the university. Nineteen (73.1%) ESLKS knew the meaning of CEM; 24 (96.0%) of them would like to receive additional training on the use of CEM. Fifteen (57.7%) indicated that they would like to learn through CEM technology while 11 (42.3%) did not like to learn via CEM. Ten (38.59%) ESLKS indicated that the first learned how to use CEM from a friend, coursework, school, and own initiative. Twenty-one (90.8%) ESLKS used CEM as the most frequent tool for communicating with other people. Some ESLKS did not have a

computer background so they perceived typing on the computer as a problem when using CEM to send or reply to messages. Most of ESLKS prefer reading CEM that they received instead of sending or replying with CEM. Some ESLKS expressed anxiety over the use of CEM because they did not know how to use it as an educational tool.

Findings

The main purpose of the study, as described in chapters one, three and four, was to assess the usefulness, relevance, and significance of CEM as a tool for the learning of English as a second language, including sentence structure, syntax, spelling, vocabulary, and clarity of writing. To achieve that purpose, participants' competencies in five critical areas of the language were assessed prior to and after a period of training and support in the use of CEM. The actual assessment was done by evaluating the original five hypotheses.

The results indicate statistically significant pretest-posttest difference in participants' competencies in all five aspects of the English Language, namely: sentence structure, syntax, spelling, vocabulary, and the clarity of writing skills among ESLKS. Based on the results, several recommendations are made for the adoption and incorporation of CEM into Kuwaiti educational system.

The following is a summary presentation of specific findings and their implications for Kuwaiti educational policies.

Hypothesis 1, Sentence Structure: The number of participants whose scores in sentence structure improved between pretest and posttest increased from 16 to 22 (38%). The difference was statistically significant (1-tailed p-value = .002).

Hypothesis 2, Syntax: The number of participants whose scores in English syntax improved between pretest and posttest increased from 17 to 22 (29%). The difference was statistically significant (1-tailed p-value = .002).

Hypothesis 3, Spelling : The number of participants whose scores in English spelling improved between pretest and posttest from poor to fair or better increased from 6 to 12 (50%). Those participants whose scores also improved in the good and very good increased from 2 to 4 (50%). However, the difference was statistically significant (1-tailed p-value = .068) at the .07 probability level.

Hypothesis 4, Vocabulary: The number of participants whose scores in English vocabulary improved between pretest and posttest increased from 21 to 24 (14%). There was a remarkable increase (from 1 to 8 or 700%) in the number of participants whose vocabulary scores improved from good to very good and excellent. The difference was statistically significant (1-tailed p-value = .001).

Hypothesis 5, Clarity of Writing: The number of participants whose scores in English writing skills improved between pretest and posttest increased from 18 to 24 (33%). Those that scored poorly in the posttest decreased by 300% (down to 2 from 8 in pretest). The difference was statistically significant (1-tailed p-value = .001).

The attitude survey of ESLKS indicates that CEM gave the participants the opportunity to discuss difficult matters, issues, and the means to contact different people in different places easily through the Internet. Some ESLKS indicated that CEM enabled them to write more frankly and to express their ideology, opinions, and ideas more freely than they could through traditional methods of communication. This findings corroborates Wang's (1993) research report that “less able students communicated more

frequently using e-mail with other students than they did using traditional modes of communication" (p.30).

ESLKS also indicated that CEM increased their interest in the learning of English and their determination to persist in its study. Participants expressed the desire to further communicate with native English speakers. In this regard, the participants indicated that CEM increased their overall confidence in the use of English and was particularly helpful in developing their skills in structure, syntax, spelling, vocabulary, and writing.

Recommendations

The present study was one of the few studies to investigate the impact of CEM on the learning of English as a Second Language (ESL) by Arab-speaking students. The findings of this study and, especially, the significant improvement in the five English language skills indicate the usefulness and relevance of CEM as communication tool in the teaching and learning of English as a Second Language. If corroborated by further research, the reported findings strongly recommend CEM as a mechanism for the study of English as a Second Language (ESL) not only in the Kuwaiti educational system but also in other Arab and non-English speaking countries. The following recommendations are intended to achieve that end:

1. Increase students' access to the computer and the internet technology for purposes of communicating among themselves and with people from other countries and other cultures. Another dimension of that recommendation is to introduce computer literacy as a subject in the school curriculum as early as primary school. In the State of Kuwait, this is in line with the Ministry of Education's new policy, as declared by Dr.

H. Al-Sa'adoon, Acting Deputy Minister of Education. According to the Deputy Minister, Kuwait Foundation for the Advancement of Science has allocated KD 982985 to finance the introduction of computer technology into the Ministry's public schools during the current academic year 1998/99. It is expected that more than 42 thousand students in 130 middle schools will benefit from this funding in five major school districts of the country (Al-Muallm, 1998, p. 15).

2. Formally adopt CEM as a medium for the teaching and learning of English, including: (a) giving students written exercises that involve the use of CEM for completion; (b) evaluating students' E-mails (CEM) for grammar, spelling, syntax, and so on; and (c) developing interactive programmed instruction courses that require students to search, retrieve, analyze, and communicate information in English. This recommendation, if adopted, would familiarize students with the increasingly important Internet technology and language. The basis of this recommendation is the growing popularity of English as the main language of communication on the Internet and CEM as its major tool. As Sayers and Brown (1987), and Cohen and Miyake (1986) observe, CEM is linking classrooms from different countries across contrasting cultures and languages. It is therefore necessary for all foreign students to intensify the learning language of the Internet in order to be able to effectively utilize that resource.
3. Expand communication and open new avenues for collaboration among foreign students and from all parts of the world. The purpose of this recommendation, if adopted, is to enable non-English speaking students to take advantage of the facilities and opportunities offered by the Internet, such as the new global computer networks

and databases, to obtain information and new ideas. As Marcus (1984) observed, CEM is facilitating peer collaboration among students in composing drafts, generating new ideas for their written assignments, and providing each other feedback through electronic messages.

4. Explore CEM as tool for resolving certain social problems, such as the integration of the sexes in Kuwaiti educational system including Kuwaiti University, Public Authority Applied Education and Training (PAAET), and public schools. The basis of that recommendation is the proposal by conservative Kuwaiti parliamentarians at the National Assembly (called, Mujles Al-Omah) who are calling for the separation of female and male students in the classrooms and laboratories. That proposal, if implemented, will likely require additional expenditure on facilities and faculty members. CEM, if expanded, could significantly reduce the cost of the resulting projects.
5. Extend the use of CEM to the study of other subject, including, in particular, Arabic languages and related subjects. Just as CEM is improving the study of the English language, the new Internet technology can also be used in the teaching and learning of other languages, including Arabic. As Chen and Wood (1994) observe, students using CEM are likely to improve in learning, writing, and critical thinking skills while at the same time experiencing less computer anxiety. Quible and Ray's (1995) research also illustrates that "students in written business communication courses will likely use the Internet in two primary ways: to communicate electronically with others (using e-mail) and to access information resources (using a variety of tools). Some will be more readily useful than others" (pp. 11-15). This recommendation, if

implemented, would significantly increase the impact of CEM in teaching and research.

6. Create indigenous professional bodies (where there are none) that would be responsible for bringing the advantages of the Internet and CEM to students, faculty, administrators, and the general public interested in keeping up with electronic communication. Such a body would also be responsible for translating Internet terminology into Arabic language and therefore making the technology more user-friendly. It would also be responsible for linking Internet users with available databases including, for example, UNESCO and Arab University.

Future Research Considerations

The present study focused on the impact of CEM on participants' English language skills. It left out many other facets of CEM and related factors that also need to be looked at for successful extension and application of the Internet technology in national educational systems. To realize more of these potential advantages, further research is recommended in the following areas:

A. Strategies for successful introduction and broader acceptance of CEM to reduce public resistance and potential conflict: Reason being this type of research on the proliferation of the Internet and CEM, particularly in the field of education, which portends a clash of cultures in fundamental Arab countries. As is well known, the prevailing social and cultural values forbid interaction between people of opposite sexes, which CEM encourages and, indeed, facilitates. In such circumstances, the advantages of CEM notwithstanding, there are very strong possibilities of resistance.

B. More comprehensive studies of cross-level impact of CEM on language skills: The relatively small sample of this study (26 ELSKS) and their selection from only middle level English as a Second Language Students make it difficult to generalize the findings to all levels of English as a Second Language Students. To remove that limitation earlier schooling engagements with CEM and, more cross-level and cross-cultural studies are recommended. Of particular relevance are studies involving samples of participants drawn from all ESL levels from different countries or cultures. The findings of such a study would probably be more generalizable.

C. CEM for the teaching and learning of other subjects and languages: The demonstrated usefulness of CEM for the teaching and learning of English suggests that it could be useful for languages as well. That potential, however, needs to be explored through further research. Efforts should therefore be made to look into the possibility of extending CEM to the teaching of other languages, particularly Arabic.

D. The possibilities and potential impact of the Internet revolution on national educational systems and cultures: Research is needed to determine the usefulness of the Internet as an educational tool, and to map out appropriate strategies for integrating the Internet into traditional classrooms. In this connection, research is needed to assess the training and technological support required for successful introduction of the Internet into national educational systems, and the possible economic, political, and socio-cultural consequences to such projects.

Postscripts

The findings of this study and the researcher's field observations indicate the tremendous potential of CEM as an educational tool. The results of the language skills pretest and posttest, in particular, suggest that, if popularized and widely available, CEM will significantly enhance Kuwaiti students' educational goals, as enunciated in "General Goals of Teaching the English Language in the State of Kuwait (AL-Muallm Magazine 1997, see Appendix 4). That conclusion is based on a number of demonstrated benefits, which the Kuwaiti participants in this research seem to have derived from their seven-week engagements with in CEM. The Internet technology, it was observed, challenged and excited gifted students' thinking and learning; helped both slow and fast learners to improve their language skills; improved students' abilities to tackle problems creatively; brought diverse students' opinions together in tackling problems and discussing issues; and assisted students in finding, accessing, storing, and retrieving needed information at their convenience, thus saving time and effort. These benefits, if corroborated and sustained, point to a new strategy in education and a different approach to teaching and learning.

The implications of CEM and the Internet technology, though still uncertain, require very close attention which Kuwaiti authorities cannot afford to ignore. In this connection, the country is well advised to take Bill Gates (1995) prognosis seriously: "The highway will alter the focus of education from the institution to the individual. The ultimate goal will be changed from getting a diploma to enjoying lifelong learning" (p.204).