

ATHABASCA UNIVERSITY

**DISTANCE EDUCATION AND SECOND LANGUAGE
INSTRUCTION: AN ANALYSIS AND RECOMMENDATIONS FOR
INTEGRATION**

BY

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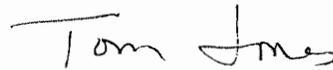
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The undersigned certify that they have read and recommend to the Athabasca University Governing Council for acceptance a thesis "DISTANCE EDUCATION AND SECOND LANGUAGE INSTRUCTION: AN ANALYSIS AND RECOMMENDATIONS FOR INTEGRATION" submitted by LARISSA D. THURLOW in partial fulfilment of the requirements for the degree of MASTER OF DISTANCE EDUCATION.



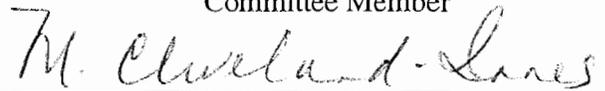
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ABSTRACT

The following thesis surveyed and examined the fields of distance education and Second Language Acquisition in order to illustrate key theories and assumptions of both fields. This thesis is a synthesis of relevant learning theories and instructional methodologies for each environment, and describes how the two have evolved both individually and collectively.

Using this historical overview as a basis, recommendations for the development of on-line second language instruction have been generated, as have suggestions as to the direction for the combined future of distance education and Second Language instruction.

The goals of this study were to provide a critical overview of second language acquisition, a critical assessment of distance education, and a comprehensive set of guiding principles for the provision of on-line second language instruction.

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CHAPTER I

INTRODUCTION

The number of distance education academic programs offered through private and public educational institutions continues to expand each year. Adult foreign language instruction, however, is one subject that seems to lag behind other subjects. This may be partly due to the perception that a language can only be learned in the presence of an instructor. Many questions have been identified in the literature about whether foreign language can be taught effectively when teachers and students are not in face-to-face contact in a traditional classroom (Horner & Roberts, 1991).

Perhaps instructors' concerns about technology replacing them, or the thought of being required to adapt their curriculum and teaching methods to new technologies also adds to the position that foreign languages are best learned in traditional classroom formats (Horner & Roberts, 1991; Chanawangsa, 1992). A better understanding of how distance education instructional approaches can be applied in a pedagogically sound manner within an English as a Second Language, or English as a Foreign Language, environment may help dispel these doubts and concerns.

Some teachers may feel threatened by the introduction of new technologies and methods. This is often with good reason, as some institutions view distance education as a means to cut costs and reduce staffing. However, in many cases, costs are in fact

increased, and more staff is needed to develop good quality learning materials for distance delivery.

Distance education then, should not be viewed as a means of reducing costs, but as an opportunity to remove barriers, and to provide quality learning opportunities for those who, for one reason or another, have previously been excluded.

Hopefully, educators who recognize the importance of equal access, communication, and learner autonomy in language learning will realize that the benefits of distance education technologies are likely to outweigh the adjustments they will have to make. Although the use of information and communication technologies is still not very widespread in the foreign language educational context, it may be a very effective way of accomplishing the task of shifting the emphasis from the traditional grammar-translation instruction to communicative, student-centred language learning. The very nature of these technologies fits into the current theories of communicative language learning and learner autonomy. Caution must be exercised when deciding to use distance education technologies, but, if used properly, they can be an advantageous complement to existing language learning methods.

Recent developments in distance education have opened up new avenues for delivering English as a Second Language and English as a Foreign Language instruction in other than the traditional face-to-face format. Distance education

provides greater access that allows instruction to take place between geographically separated teachers and students. Through the use of advanced technologies, it is possible to develop distance education programs that address the needs of those English as a Second Language/English as a Foreign Language learners whose responsibilities preclude attendance in a traditional classroom, or who are geographically dispersed. Thus, English as a Second/Foreign Language would seem to be an area in which distance teaching methods and tools could make a useful contribution (Larson, 1998).

It may be argued that the transactional nature of the Internet and computer technology employed in distance education courses can in fact enhance language courses offered at a distance so that they are actually more effective than traditional face to face instruction. The ability to provide relatively inexpensive, instantaneous, global interactivity, between individuals and computers is what gives effectively designed distance education such potential in the educational arena.

Language instruction delivered in a distance education format can be just as effective as any other type of instruction and, using the Internet as the communications medium, perhaps even more so. The Internet utilizes advanced technologies of image and sound, storage and retrieval, and because of these features, it may even prove to be the ideal vehicle for delivering foreign language instruction via distance education.

Since Internet use is still a relatively new phenomenon, little research has been published that offers an effective methodology to follow. At the same time, since it is new, and has become prevalent in so many areas of life, many businesses and educational institutions are attempting to provide this alternative to traditional instruction. Given that the Internet is already being used as a viable alternative to traditional classroom instruction in many other fields, a logical step for the English as a Second/Foreign Language and distance education fields is to design a methodology to employ when designing and instructing an on-line foreign language class. As such, this study will add to the limited research base and assist educators in the process of designing on-line second language instruction.

By creating an effective framework to follow, English as a Second/Foreign Language educators who are unfamiliar, uncomfortable, or distrustful of distance education and the technology it employs may feel more confident about experimenting with it and eventually will introduce it into their usual instructional repertoire. Also, if a basic methodology proves successful, then augmenting that basic methodology with more refined technologies will make it even more effective and enjoyable for distance education students and teachers alike.

Despite an apparent abundance of literature on distance education, and a considerable body of literature in the field of English as a Second Language/ Foreign

Language, relatively little has been written about language teaching and learning at a distance. As a consequence, it is important to identify what pedagogical factors and considerations educators should know in order to facilitate their decision making process when designing online English as a Second /Foreign Language courses and/or programs.

Current distance education tools, such as the multimedia capable computer and the Internet, deliver information through combinations of video, sound, animation, graphics and text in an interactive and user-controlled way. These characteristics make appropriately designed distance education a powerful tool for foreign language communication, but as yet there are few courses or programs developed that offer foreign language instruction completely at a distance, delivered online; as well, there is little research into the effects of such instruction on second language acquisition.

Based upon the ideas, hypotheses and principles of Second Language Acquisition, Second Language Learning and Teaching, and distance education, this study will provide a critical overview of the standard model in Second Language Acquisition; a critical overview of the standard model in distance education, and a comprehensive set of guiding principles for the provision of on-line second language instruction.

The results of this review can be used as guidelines to choose appropriate instructional methods and decide which technologies (if any) should be employed, and

finally, how to use them most effectively to achieve the highest level of success for foreign language instruction delivered in a distance education format.

Definition of Key Terms

For the purposes of this study, the relevant terms are defined as follows:

English as a Foreign Language. There are several types of second language learning as far as learning contexts are concerned. One of the contexts is technically called English as a Foreign Language which, according to Brown (1994b, p.120), refers to:

Learning English where students do not have ready-made contexts for communication beyond their classroom. They may be obtainable through language clubs, special media opportunities, books, or an occasional tourist, but efforts must be made to create such opportunities. Teaching English in Japan, Morocco, or Thailand is clearly a context of English as a foreign language.

English as a Second Language. English language is taught in second language learning contexts, which refer to those in which the classroom target language is readily available in everyday life. English as a Second Language occurs within the culture of English language or within one's own native culture where English is an accepted language used for education, government, or business within the country, i.e. teaching English in Canada or Australia (Brown, 1994a).

Second Language Acquisition. Second Language Acquisition refers to the body of research into language acquisition by non-native speakers. The field of second language acquisition research investigates the influences on, and rate of, second language development. Second Language Acquisition is not a uniform and predictable phenomenon. There is no single way in which learners acquire a working knowledge of a second language. Second Language Acquisition is the product of many factors pertaining to the learner on the one hand, and the learning situation on the other. The interaction of these two sets of factors results in complexity and diversity. Different learners in different situations learn in different ways. Nevertheless, although the variability and individuality of language learning needs to be emphasized, Second Language Acquisition identifies aspects that are relatively stable and hence

generalizable, if not to all learners, then, at least, to large groups of learners (Ellis, 1985). This study will address these aspects.

Second Language Acquisition vs. Foreign Language Acquisition. Second Language Acquisition, as used in this study, is not intended to contrast with Foreign Language Acquisition, as it sometimes does in the literature. Second Language Acquisition is used here as a general term that embraces both terms.

Second Language Acquisition vs. Second Language Learning. Second Language Acquisition is sometimes distinguished from Second Language Learning on the assumption that these are two different processes. The term “acquisition” is used to refer to picking up a second language through exposure, whereas the term “learning” is used to refer to the conscious study of a second language. There is debate about whether this is a real distinction or not (Ellis, 1985) and thus the two terms are used interchangeably here.

Distance education. Systematic learning that normally occurs in a place different from where the teaching takes place and, as a result, requires special techniques of course design, instructional techniques, methods of communication by electronic and

other technology, as well as special organisational and administrative arrangements (Moore & Kearsley, 1996).

Media. The symbol systems that carry the messages, i.e. print (words and pictures), sound (voice and music), and video (picture, sound, and motion) (Wat-Aksorn, 2001).

Technologies. Machines, systems, and/or organisations that distribute and/or support the use of a variety of media, e.g., correspondence by mail, radio and television broadcasting, satellite, cable, telephone, computer networks, and the Internet (Wat-Aksorn, 2001).

Pedagogical Factors. Factors concerning the art or science of instruction, especially in teaching methods.

The Goals of this Study

This study aims to provide a comprehensive set of guiding principles for the provision of on-line second language instruction. This objective will be approached by examining the theoretical and research literature from the field of distance education, Second Language Acquisition, and Second Language Instruction, in order to identify

the relevant hypotheses about how second language learning might be facilitated or enhanced by distance education technologies.

This review will determine what promise distance education holds for modern language teaching, particularly to the instruction of English as a Foreign or Second Language, and in what way it can be best used to achieve this potential. As such, it aims to be not only a theoretical discussion, but also a practical starting point for those seeking to integrate distance education and/or distance education technologies into the foreign language curricula.

The study takes place in the following context:

1. Over 700 million people speak English as a first or near native second language (Crystal, 1997).
2. English is the world's main language for the business and academic communities at present.
3. The communications and digital revolutions of the 1990's have facilitated a worldwide boom in personal computer ownership.
4. Distance learning is predicted to be a major growth area for education in the future (Moore & Kearsley, 1996). Several trends, such as the availability of new technologies, emphasis on cost saving, and changing demographics are some of the reasons for the growth of distance education.

5. The development of distance education materials can be very costly and labour intensive, so it is important to understand if, and how, they contribute to English as a Second/ Foreign Language learning.
6. The research base on the design, use, and effectiveness of distance education materials and methodology for English as a Second/Foreign Language instruction is very limited.

The main aims of this study are to provide:

1. A critical overview of the standard model in second language acquisition
2. A critical overview of the standard model in distance education, and
3. A comprehensive set of guiding principles for the provision of on-line second language instruction.

CHAPTER II

DISTANCE EDUCATION: AN OVERVIEW AND CRITICAL ANALYSIS OF EXISTING MODELS

Introduction to Distance Education Concepts

Distance education, or open learning as it is known in contexts outside of North America, is an educational model in which the student and instructor are separated by time and place. The terms distance education and distance learning have been applied interchangeably by many different researchers to a great variety of programs, providers, audiences, and media. Its hallmarks are the separation of teacher and learner in space and/or time (Perraton, 1988), the volitional control of learning by the student rather than the distant instructor (Jonassen, 1992), and non-contiguous communication between student and teacher, mediated by print or some form of technology (Keegan, 1986; Garrison and Shale, 1987).

It includes a variety of non face-to-face teaching procedures; ranging from basic correspondence courses to computer-enhanced interactive video. A basic definition that is generally accepted by most theorists of distance education includes four characteristics (Wat-Aksorn, 2001):

1. Teacher and learner are separated for most of the learning process.
2. The course or program is influenced or controlled by an organised

educational institution.

3. Some form of media is used, both to overcome the physical separation of teacher and learner and to carry course content.
4. Two-way communication in some form must be provided between teacher and learner.

Keegan (1986) developed these four points for his comprehensive definition of distance education, which has been debated, redefined, and rewritten by many people. Most now agree in principle that these four factors must be present for something to be considered distance education. Krendl et al. (1997) explained the way these four characteristics are interpreted.

The first characteristic eliminates courses that mostly occur in a classroom, with an occasional television or correspondence lesson or module. Classroom teachers who occasionally use an educational film or require their classes to watch a television show at home cannot be said to be teaching at a distance. The second criterion eliminates most self-study programs, such as individuals reading in a subject without formal guidance. The third is interpreted broadly, sometimes defining as distance education a correspondence course whose written material makes heavy use of illustrations. The fourth is also broadly interpreted: Two way communication can mean everything from high-tech interactive video or online computer communication to the cumbersome, but still-effective, written communication between student and teacher, in which the

student submits an assignment and the teacher returns it with comments and suggestions (p.101).

It should be noted that, although not included in Keegan's points, a fifth area of agreement among most theorists is that distance education is a form of Open Learning (Holmberg, 1989; Bell & Tight, 1993). Student autonomy is one aspect of Open Learning, the autonomy to choose courses, put together a particular course of study, set a time frame for completion, and even set assessment standards (Kember, 1995; Moore, 1973; Moore & Kearsley, 1996).

Directions in Distance Education

Socio-economic changes are being brought about by the emerging information age, the rapid changes in technology and communications, the emerging global economy and change in population demographics (Norenberg & Lundblad, 1987). Educators are facing an increasingly diverse student population in need of training, retraining, and updating of skills to acquire new jobs or to keep current in present occupations. In today's society, there is also the perception that convenient and quality educational opportunities should be made available to anyone who desires them. With the advance of technology, distance education is an alternative means of delivering quality instruction to those who desire it.

“Distance learning is the fastest growing model of domestic and international

education” (Poley, 2000, p. 1). Historically, the precursor of technology-based distance learning was correspondence education, which started in Europe and the United States in the mid 19th century (Belanger and Jordon, 2000). Beginning in the middle of the 20th century and continuing today, television began playing a role in providing distance education courses and programs. For example, the Public Broadcasting Service (PBS) presents courses that are taken by students in over 2,000 U.S. institutions (Berlanger and Jordon, 2000, p. 6).

The continued and growing need for remote access to learning opportunities, combined with newer information systems and communication technologies, especially the use of the World Wide Web, has now made distance education a focus of concern in higher education. In 1997-98, 91 percent of public two and four year institutions either offered or planned to offer distance learning courses in the next three years (U.S. Department of Education, National Center for Education Statistics, 1997-98, p. 1). According to a report by International Data Corporation, in 2002 approximately 85 percent of two and four year colleges were offering distance education courses. Student enrolments are estimated to be over 2.2 million students, or 15 percent of all higher education students (Heterick and Twigg, January 1, 2002, p. 2). Investment in distance education is estimated to reach \$2 billion dollars by the year 2003 (Poley, 2000, p. 1).

Almost every country in the world has some form of distance education. Verduin & Clark (1991) stated that the International Council for distance education (ICDE) estimated that at least ten million people study at a distance worldwide every year. The boom in distance education has occurred for several reasons (Rumble, 1986; Keegan 1986; Verduin & Clark, 1991; Krendl et.al., 1997; Moore & Kearsley, 1996).

In developing countries, the thrust for modernization has led to a need to expand education beyond the primary levels and to improve teacher training on a scale only possible through distance education (Verduin & Clark, 1991; Chaya-Ngam, 1993). In these contexts, distance education is also used for rural and community development.

In developed countries, distance education is used primarily in the context of continuing adult education for such purposes as working on personal development, updating skills of employees, and retraining unemployed workers (Merriam & Brockett, 1997). A universal reason for using distance education is to equalize and widen opportunities. Distance education enables learners to gain access to educational resources, which they may, for geographic, social, or economic reasons, lack access to in their traditional form (Chaya-Ngam, 1993; Moore & Kearsley, 1996).

Views of Distance Education

Many educators were critical of distance learning in the past because of the expense of technology, lack of student-teacher interaction, and questions over the

quality of student learning. The most recent research, however, suggests that new technology has provided advances that enable students to learn as well with distance education as they might in traditional educational settings. Students and teachers can interact in new and crucial ways to facilitate learning. In fact, distance learning has advantages over traditional instructional methods by offering the opportunity to: achieve equity of access, share resources, provide personnel when teachers are unavailable, extend existing personnel, provide special courses, adapt to individual learning styles, and improve flexibility regarding location, time, and scheduling.

Though the growth of distance education is noted as a significant feature in the current higher education environment, educators are not of one mind about distance learning. Some welcome the opportunity to expand access to higher education to lifelong learners not well served by traditional courses offered on-site (Dickinson, 2001, p. 2). Others welcome the chance to enrich education for distant students via technology to create a new, active, student-centred learning experience. The key factor is establishing the right mix of teaching modalities that includes instructor-led teaching, as well as computer and multimedia based learning opportunities (Galimi and Furlonger, 1999, p. 3).

Distance education technologies are expanding at a rapid rate. Too often, instructional designers and curriculum developers have become enamoured of the

latest technologies without dealing with the underlying issues of learner characteristics and needs, the influence of media upon the instructional process, equity of access to interactive delivery systems, and the new roles of teacher and student in the distance learning process.

Some educators express concern that the quality of education for students declines in the Distance education environment (National Education Association, June 2000, p. 42). Weigel (2002) suggests that "distance education in its current incarnation has been accorded the status of second best" (p. 45). He suggests that the emphasis on the convenience of distance education reinforces its second-class status. The language of convenience often functions as a subtle cue to lower expectations for a particular experience (Weigel, 2002, p. 45).

Some teachers' lack a coherent understanding of distance education practice and the full range of instructional design possibilities available to them in a distance learning environment to achieve desired outcomes (Instructional Design for Interactive Distance Learning, 1997). Some major distance education initiatives emphasize educational issues only when related to fiscal implications (i.e. cost savings) of distance education efforts (Andrew W. Mellon Foundation, 1998; Twigg, 1999; Taylor et.al, 2001; Robinson, 2001; Rivard, 2001; Morgan, 2001).

Educators have an unprecedented opportunity to provide leadership and direction in

helping to make sense of the confused distance education environment. The challenge is to appropriately respond to distance education driven educational changes that Armstrong (2000) has called both "sustaining" and "disruptive," by explaining and anticipating distance education practices for a broad range of emerging educational purposes and experiences.

Describing and Defining the Field

Distance education encompasses essentially all learning technologies, including postal distribution, video broadcast, CD-ROM and Web delivery in which instruction and learning interactions may take place independent of the relative physical locations of the individual participants (Lundy et.al, 2002, p.1). This definition may seem straightforward enough, but “conceptual confusion is continually created with the advent of new terminology” (i.e., distance learning, distributed learning, open learning, e-learning, flexible learning, learning portal and virtual classrooms) (Garrison, 2000, p.1). Table 1 provides definitions for some of the terms found in the literature.

Table 1. Definition for Some Distance Education and Training Terms

Term	Definition	Source
Asynchronous Learning (sometimes referred to as networked learning)	A type of learning in which learners and instructors use computers to exchange messages, engage in dialogue and access resources any time and any place.	Commonwealth of Learning, 2000. Schocken, 2001.
Distance Education	Planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, and special methods of communication by electronic and other technology, as well as special organisational and administrative arrangements.	Moore and Kearsley, 1996.
Distance Learning	Instruction and learning practice utilizing technology and involving students and teachers who are separated by time and space.	Majdalany and Guiney, 1999.
Distributed Learning	Learning environment [which] exists among a dispersed student population, is structured according to learner needs, and tends to integrate traditional institutional functions (e.g. classroom and library)...through both synchronous and asynchronous communication.	Oblinger and Maruyama, 1996.
E-learning	Can be a subset of DL [distributed learning]. Relies on digital content, experiences through a technology interface, and is network-enabled. Collaboration is a desirable feature of e-learning.	Lundy et. al., 2002.
Open learning	An arrangement in which learners work primarily from self-instruction, completing courses structured around specially prepared, printed teaching materials, supplemented with face-to-face tutorials and examinations.	William et. al., 1999.

Despite differences, there is agreement that the definitive characteristic of distance education is the “quasi-permanent separation of teacher and learner through the length of the learning process and it is this condition that provides a basis for inquiry” (William et. al., 1999, p. 2).

Distance education borrows terminology from other disciplines, including Psychology, Sociology, Philosophy, History, Economics, Organizational Theory, Adult Education, general education and Information Technology (Lundy, et al. 2002). Thus, this review of distance education begins with an understanding of key concepts related to distance education, including processes, technologies and capabilities.

The Discipline of Distance Education

Some theorists have proposed that distance education can be considered a discipline in its own right with its own vocabulary (Coldeway, 1989). Holmberg (1986) has examined the grounds for regarding the study of distance education as an emerging discipline. He reviews over 300 studies and concludes that, “there is in fact a discipline of distance education, which can be described both in terms of [unique] research programs and in terms of curricula for university study” (Holmberg, 1986, p. 4). Others have hesitated to speak of a discipline, but rather view distance education as “a coherent and distinct field of educational endeavor” (Keegan 1996, p. 6). Devlin describes distance education as a derivative field of Adult Education, which in itself is

a "professionalizing vocation," not a discipline in its own right (Devlin, 1989). Still others choose to refer to simply the field of distance education based on the view that "it lacks autonomy and independence from education", (Rumble, 1988, p. 1) and that "there is nothing uniquely associated with distance education in terms of its aims, conduct, students or activities that need affect what we regard as education"(Garrison 1989, p. 8, quoted in Hutton, 1998).

Globalization has inspired additional ways of looking at distance education. Shale (1987) uses the term Open Learning to describe a way of looking at distance education in international higher education. Wedemeyer (1975), one of the early theorists in the open learning field, describes the basic principle that characterizes the open university concept:

Learning is the act or process of acquiring knowledge or skill. When the adjective "open" is used to qualify "learning" we have put a name to a process of learning that is not enclosed or encumbered by barriers, that is accessible and available, not confined or concealed and that implies a continuum of access and opportunity...The ideal concept of open education would take the form of education permanente, open to all people at all levels, cradle-to-grave (Wedemeyer,

1975, p. 125 as quoted in Shale, 1987, p 2).

The core concept inherent in "openness" is the idea of extending access to educational opportunity, and this may be done in many ways. For example:

1. The provision of more "seats" at the university level.
2. The usual entrance requirements for admission to a university program may be eased or waived.
3. The constraints of having to be at a particular place at a particular time may be alleviated or waived completely.
4. "Substantial" credit may be awarded for life-experience or for university credit taken at other institutions.
5. Credits earned through study elsewhere may be "banked" and perhaps combined with life-experience credit, to be applied to a degree at a host university.
6. Students study independently and at a pace of their own choosing (Shale, 1987, p. 3).

This study will use the phrase distance education and/or Distance Learning interchangeably to reference various forms of mediated teaching and learning, characterized by the dispersion in time, space or both of learners and their instructors

for the whole or parts of programs. “The distinction between distance learning and open learning has been that as it evolved, distance learning incorporated technological advances into the teaching/learning process, whereas open learning did not necessarily do the same”(William et al., 1999, p. 2). The growth of "open" universities, most of which offer education at a distance, has not helped to clarify the distinction between the two.

The term *open* generally refers to institutions, such as the British Open University and many North American community colleges, which have open admission policies. An open admissions policy is not necessarily a characteristic of distance learning programs, however. A survey reported by William et.al., (1999) shows that in a United Nations database of distance learning programs, only 22 percent of 859 distance learning programs had open admission policies (p. 3).

Components of Distance Education

Delivery Systems

Distance education appears to be continuing to evolve toward greater conceptual complexity, particularly in relation to the variety, power and flexibility of delivery systems to respond to the variety of learning environments highlighted above. These include print, correspondence, radio, television, fax, audio and video cassettes, CD-ROMS, DVD's, telephone, one-to-one videoconferencing, teaching aids (such as

photographic slides and experimental kits for use in the home), and computers (used to undertake computing as a general tool for word processing and spreadsheets, for electronic mail and computer conferencing and in computer assisted learning/computer aided instruction). Technological development is increasing the range of such media and increasing the way in which media can be combined. For example, content management software on the web can be used to post syllabuses in combination with a synchronously delivered course via room videoconferencing (Rumble, 1992).

Process

In addition, definitions of distance education exist which emphasize the process of educational delivery. Definitions that focus on process characterize distance learning as a transaction between teacher and learner based on dialogue and structure. Moore (1973) proposes the concept of transactional distance as the key element in distance education. Transactional distance is a "distance of understandings and perceptions [not of geography] that may lead to a communication gap or a psychological distance between participants in the teaching-learning situation" (Chen and Willits, 1998). As a continuous variable, the magnitude of transactional distance is dependent upon *dialogue*, the potential for communication between learner and instructor, and *structure*, the degree to which a learning program can be individualized for specific

learner needs (Moore, 1993). Moore argues that the degree of transactional distance between learners and teachers and among learners is a function of the extent of the dialogue or interaction that occurs, the rigidity of the course structure, and the extent of the learner's autonomy (Chen and Willits, 1998). Moore argues that transactional distance and learner autonomy are directly related. Learners operating at greater transactional distances need more autonomy (Muth & Guzman, 2000). Learner autonomy is defined as the extent to which in the teaching/learning relationship it is the learner rather than the teacher who determines the goals, the learning experiences, and the evaluation decisions of the learning program (Moore, 1993, p. 31).

Identifying Critical Elements in a Distance Education Environment

Ryan (2001) shows that two models of learner support now exist in the distance education environment: one related to development of the individual's potential and another related more to the needs of the system for accountability. She points to technology's ability to focus on learner-centeredness.

Whereas Dewey conceived of the teacher manipulating the learner's environment and resources in order to stimulate the individual, the distance learner is now seen to be independent of the teacher, who is no longer a directive expert or 'sage on the stage,' but a facilitator or 'guide on the side' " (Ryan, 2001,

p. 73).

Some critics of distance learning consider the individualistic model of learning described above as having serious defects.

For Dewey, a highly individualistic, or libertarian model of learning severely narrows and restricts the meaning and practical effects of education's social function. In his view, the purposes of education in a democracy are necessarily both individual and collective in nature. They consist in developing individuals' natural capacities and acquisition of skills in concert with their preparation for the activities of engaged citizenship and reflective thought (Brint, 2002, p. 4).

Many who analyze the impact of distance education on teaching and learning would instead agree with Twigg and Jurich, who state that greater quality means greater individualization of learning experiences for students. This means moving away from teaching and learning ideas that begin with the thought that 'all students need...' (Twigg, 2001, p. 9), and focusing instead on learner-centred, technology-based forms of learning (Jurich, 2000, p. 4).

Other important contributors to a conceptual analysis of teaching and learning in the distance education field include Wedemeyer, who as early as 1971, began to

identify the defining characteristics of distance learning, including communication, pacing, convenience, and self determination of goals and activities by the learner (Garrison, 2000). Peters (1994) considers the structure of distance education, noting the possibility of adopting industrial production techniques such as the division of labour, mass production and organization to realize economies of scale and reduce unit costs (Garrison, 2000). Holmberg (1989) has developed the concept of guided didactic conversation as the pervasive characteristic of distance education. Essentially, his theory presents the view of distance education as “friendly conversation [fostered by] well developed self-instructional materials [resulting in] feelings of personal relation...intellectual pleasure [and] study motivation”(Garrison, 2000, p. 8).

Other major theorists include Garrison and Shale (1990), who place the teaching and learning transaction at the core of distance learning practice (Garrison, 2000). A collaborative education perspective is offered by Henri (1992), and includes five educational dimensions: participation, interaction, social, cognitive, and metacognitive (Garrison, 2000).

In spite of the large range of theoretical research on teaching and learning in the distance education environment cited here and elsewhere (see Muth & Guzman, 2000; Garrison, 2000 for comprehensive reviews) the distance education field lacks a record of empirical research to support its theoretical models and to provide a framework for

the field (Willis, 1998; Saba, 2000). Most research focuses on: 1) descriptions of various programs and institutions “[a recent 10-year survey of distance education research points out that three-fourths of the 890 articles and dissertations reviewed between 1990 to 1999 involved descriptive research (Berge & Mrozowski, 2001, p. 11-12)]”; 2) audience studies, including the performance of students; 3) cost effectiveness studies; 4) methodology, descriptive of the various methods used to teach, support and counsel students; and 5) social context, examining the social context of distance learning (Perraton, 2000, p. 4-5). Research questions are rarely posed within a theoretical framework or based on fundamental concepts and constructs, making it difficult to draw any general conclusions or consensus about the nature of the field (Saba, 2000; McIsaac & Gunawardena, 2001). As a result, there is a shortage of well-founded research findings on many aspects of distance learning, while findings about its context, critical for policy makers, are especially scarce (Perraton, 2000).

Shale (1990, as cited in McIsaac and Gunawardena, 2001) calls for theoreticians and practitioners to stop emphasizing points of difference between distance and traditional education, but instead to identify common educational problems. Distance education, is after all, “simply education at a distance with common frameworks, common conceptual concerns, and similar research questions relating to the social

process of teaching and learning” (McIsaac & Gunawarden, p. 408). As "hybrid" teaching (the replacing of some in-person meetings with virtual sessions) starts to blur the distinction between traditional and online instruction (Young, 2002), the differences between distance education and traditional teaching are becoming less distinct. The need for separate discussions about educational practice in the distance education environment will lessen as convergence of distance education, distributed learning and traditional instruction occurs (Otte, 2002).

Building a Theoretical Framework

While convergence in practice is taking place, there are those that still believe that a theoretical justification of distance education as a separate discipline and practice is needed (Keegan, 1996). McIsaac and Gunawardena (2001) summarize three approaches to theory building. First, a multi-disciplinary and interdisciplinary approach to distance education is identified. This approach encourages a broad view, employing insights from the humanities and social sciences to provide an academic perspective on the distance education environment (see von Baalen & Thodenius, 2000). Secondly, they identify research related to adult learning as providing a unique educational perspective in the distance education field (see Einarsson & Gard, 2000). Thirdly, they discuss an international perspective (see Rumble, 1992), pointing out that certain lines of questioning are more appropriate in some countries than others

due to differing environmental circumstances and needs of potential students.

McIsaac and Gunawardena (2001) point out that though these three approaches to theory building have advanced conceptual thinking about distance learning, more work is needed. They suggest a critical approach that integrates theories from all three perspectives in order to enrich theory building in the distance education field.

Systems Theory

The open systems approach can provide a fundamental context for the critical study of distance education because of its potential value in "synthesizing and analyzing complexity" (Simon, 1968, quoted in Malhotra, 1993, p. 7). This complexity includes:

1. A large number of activities to be integrated including course design and development, production, delivery, teaching and student support;
2. A variety of specialist personnel and resource inputs;
3. Large numbers of students;
4. New communication technologies;
5. Visible and relatively permanent course materials (compared to the more temporary nature of face to face teaching and learning);
6. Significant extra-institutional goals e.g. access and equity, national/mass education;

7. Significant financial investments; and
8. Significant risk.

Together these characteristics imply a need for coordinated management and control and integration of resources - human, physical and monetary. In complex situations, marked by the need to be flexible and adaptive, as well as an emphasis on service to clients, cost reduction, and rapid response to changing technologies, a systems approach can help assist in planning, directing, evaluating, and redirecting programs and processes.

Keegan (1993) has proposed the use of Systems Theory to serve as a basis for systemic study of distance learning, to contribute to conceptual insights about the complexities of distance education, and to provide the basis for developing methods for enhancing the teaching-learning environment. An open system is a distinct entity that takes in resources from its environment, processes them in some way, and produces output. The components of the open system are relationally arranged and interdependent "in order to attain its specified purpose" (Banathy, 1992, p. 191, as quoted in Cookson, 2000, p. 2). A systems approach looks both inward and outward, focusing on relationships and patterns of interaction between subsystems and their environments within the organization. In this context, terms such as input, process, output, control and feedback are frequently used for describing, analyzing, and

evaluating institutions. These tools can be applied to any level and to any function in an institution.

How Distance Education Fits the Systems Model

Keegan (1993) views distance education as a multidimensional system of learning and communication processes. Saba (2000) states that a systems approach is necessary to describe distance education and define a set of prescriptive principles and rules for its effective use, as well as a set of criteria to determine its effectiveness.

Distance education may be conceptualized and analyzed from a systems perspective because it is made up of a complex set of interdependent subsystems. External to a distance education program are local, state, national, and international structures that impact on offerings and delivery systems. Within the institution, there are three major subsystems: an operational system, a logistical system and a regulatory system. Each is comprised of its own variously integrated sub-systems and sub-sub systems. For example, there is the sub-teaching/learning system. When learners come into contact with teaching/learning materials and are supported in study, a teaching/learning system exists. The sub-sub systems that integrate to form this sub-system involve:

1. A learning recruitment and admission system.
2. A course design and materials development system.

3. A teaching/mentoring system.

A Student Support System

The distance learning program takes in resources and information and processes them within these sub-systems in a variety of ways, returning a range of educational services and programs to individuals and systems in its environment. The distance education program is highly dependent on resources in the environment for its success.

There are numerous examples of systems thinking in distance education. One example is provided by Moore and Kearsley (1996) in which they refer to distance education as:

a system that consists of all the component processes that make up distance education including learning, teaching, communication, design, and management and even such less obvious components as history and institutional philosophy.

Within each of these broadly named components are subsystems, which are systems in themselves. For example, there is a subsystem in every distance education system that deals with course design, one that includes many component

activities working together so that the course is produced with quality, on time and at acceptable cost. The course design subsystem links to other subsystems to form the total system. While we may choose to study each of these subsystems separately, we must also try to understand their interrelationships. Anything that happens in one part of the system has an effect on the other parts of the system. So as we focus on any one part of the system, we need to hold in the back of our minds a picture of the total context

(p. 5, as quoted in Cookson, 1998, pp. 2-3).

According to Moore and Kearsley (1996), successful distance education programs must examine the whole learning experience systematically and as a collection of its interrelated systems -- the learning organization (students and faculty), instructional design systems, the delivery system, the interactions between student and instructor, and the learning environment.

Potential inputs or options are identified for each of these components (see Table 2 below). For example, interaction is identified as potentially involving: students interacting with faculty, advisors, administrative staff, and with each other (Moore and Kearsley, 1996). Options identified for the management and administration of the

distance learning system include: assessment methods, resource allocation, and policy development (Moore and Kearsley, 1996).

The costs and complexities of understanding, implementing and managing a distance learning system justify the use of teams of specialists and a mass production model of education. Moore and Kearsley (1996) draw analogies to the modern air transportation industry, and state: "a distance education system only becomes cost effective when it can take advantage of the economies of scale" (Moore and Kearsley, 1996, p. 7).

Table 2. A Systems Model for Distance Education

Sources → ↑	Design → ↑	Delivery → ↑	Interaction → ↑	Learning Environment
Student needs	Instructional Design	Print	Instructors	Workplace
Organizations	Media	Audio/Video Recordings	Tutors	Home
Theory/ History	Program	Computer Software	Counselors	Classroom
Philosophy	Evaluation	Audio conferencing	Administrative Staff	Learning Center
		Videoconferencing	Other students	
		Computer Networks		

Adapted from Moore and Kearsley, 1996.

Cookson (1998), using previous research completed by Banathy (1992), analyzes distance education as an organizational system. Banathy described three systems models: system-environment model, the structure-function model, and the process behaviour model. Cookson shows that each model provides a unique perspective for understanding the structure of distance learning as a system (Cookson, 1998).

The Systems-Environmental Model

Comprehension of a system cannot be achieved without a constant study of the environmental forces that impinge upon it (Katz and Kahn, 1966, as cited in Malhotra, 1993, p 1). As Dron, Boyne, and Siviter (2000) write quoting Cox (1997):

what actually governs complex systems is rarely the industrial age's notion of design at all. Rather, they evolve, shaped by an interaction in which system and environment minutely adjust to each other as biological organisms evolve with ecologies (p. 1).

To conceptualize a distance learning system in terms of its environment is to emphasize the importance of exchange between the distance learning program and its environment. Unfortunately, the forces that drive this exchange are not always the needs of the learners, but may be swayed by everything in the environment from government policies to university traditions (Dron, et al, 2000, p. 1).

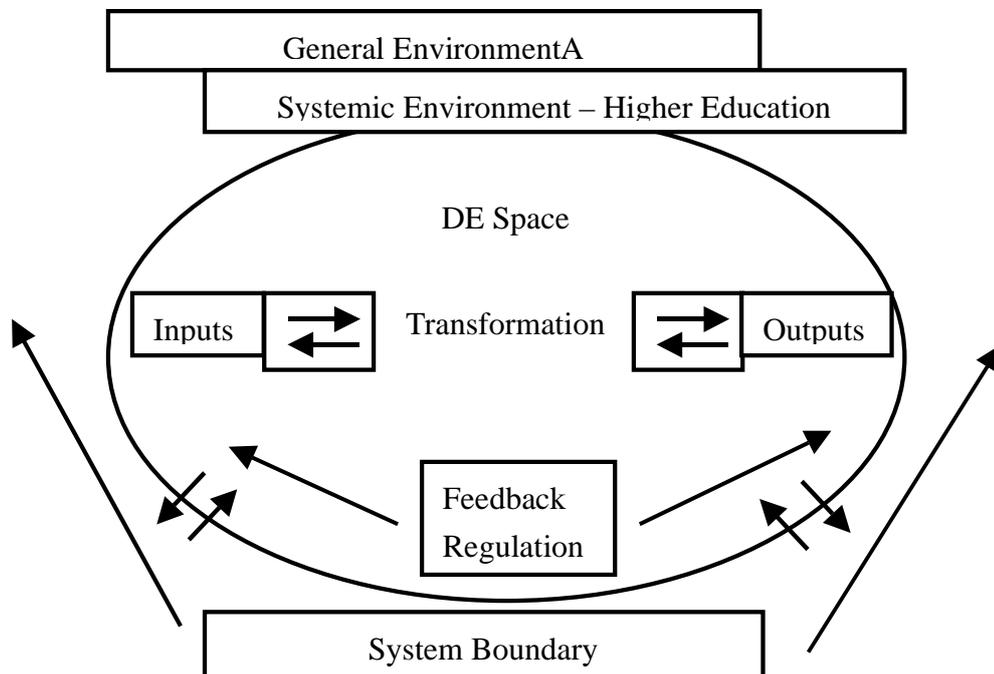
For example, distance education systems respond to financial imperatives in their environment in one basic way: by collecting tuition. These programs also depend heavily on their environment's human resources to sustain a pool of qualified instructors. In addition to being personnel intensive, distance education programs require special, potentially costly fixed assets, most notably an appropriate technical infrastructure to support course delivery. Another vital form of input for distance learning systems is information, for example, knowledge of subject-specific and job specific-educational needs in a given community.

The most obvious output of a distance education program is course content delivery,

either synchronous or asynchronous. Another output may be supplemental educational resources distributed in various forms, which can be utilized over a longer period of time.

Less tangible outputs can also be considered, such as the effect of distributed learning on students' attitudes about learning in general, or the long-term impact of a distance education program on the economic development of a community. The effectiveness of this kind of output is difficult, but not impossible to measure, and may help to determine how well a distance learning program is functioning as a system. By viewing a distance education system in this way, we can determine the adequacy of its response to the environment, as well as the impact of the environment on the distance education system. See Table 3 below.

Table 3. The Model of a Distance Education Systems Environment



Adapted from Cookson, 2000, p. 2.

All distance education systems have boundaries that define what is inside and what is outside the system. Sometimes the boundaries are imprecise. Fundamental to this imprecision is the idea that there is no one best way to organise. Just as with living organisms, the effectiveness of a distance education organisation depends on the alignment among characteristics of the system and between the system and its environment. The systems-environmental model enables us to see distance learning in terms of interrelated and interdependent processes. This means if one component that impacts the distance education system is changed, other components are likely to change too. For example, if a communication medium is changed, this will affect the instructional design, nature of interaction, and possibly the distance education environment itself. Other dynamics can be anticipated as well. For example, an increasingly effective distance capability might encourage a change in institutional goals from an initial focus on local students or a particular kind of course offering, to a wider range of programmatic offerings delivered to a more widely dispersed student body. Improved institutional capability in distance learning could also change institutional context by increasing the legitimacy of distance education efforts within the context of university teaching and research missions.

The Functions-Structure Model

The functions-structure model depicts a system at a particular moment in time (Banathy & Jenks, 1990, as cited in Cookson, 1998). This model describes the distance education system in terms of its nature, purpose and functions, as well as how it is organized to accomplish its mission, and how the different parts are integrated.

The functions-structure model projects a still picture image that enables us to describe the educational system's goals, the functions it carries out to attain those goals, the components of the system that interact to carry out those functions, and the way those components are organized and integrated to create the structure of the system (Banathy and Jenks, 1990, quoted in Cookson, p.52, 1998).

Application of this model to distance education involves five steps: 1) defining the system image; 2) identifying the systems definition, consisting of both purposes and systems specifications; 3) identifying the functions the system carries out; 4) determining which components of the system carry out the functions; and 5) defining the system's structure of relationships among the various parts (Cookson, 1998).

In applying step one, distance education programs show marked image variation (Foster, 2002, p. 1). They vary in socio-political contexts, in the external infrastructure

and delivery and communications capabilities available to them; in their audience; in the economic circumstance of their audience; in the significance of their role within their parent organization and externally, and in their goals. Institutions vary in the scope of their distance education offerings, and the scale of their distance education program. Institutions also have varied distance education structures. They may be single mode institutions, i.e., offering everything by distance education. Mixed mode institutions teach essentially the same courses by both traditional and distance delivery. Many North American universities support this model. Departmental models represent those institutions that have a separately constituted department for the offering of distance education opportunities. Audience targeted organizations deliver continuing professional development programs for professional clientele. Dozens of professional associations and societies provide continuing education to members in a distance education mode. Collaborative models include the sharing of resources, technical and/or content, between institutions. A brokerage model includes an organization that brokers the courses of other institutions. Finally, there are a growing number of examples of institutions jointly offering a cooperatively designed course or program (DuMont, 2002).

Kaye and Rumble (1981) focus on the problems faced by educational institutions in developing appropriate structures for their distance education programs. They suggest

that a major issue confronting many universities is how to resolve the conflict between distance education programs, which often requires the management and structure of a business enterprise and traditional academic areas that have a completely different style of governance (Jeffries, 2002, p. 6). These differences often find expression in a conflict between academic 'freedom of action' and the necessity for maintaining effective production mechanisms (Kaye and Rumble 1981, p 179, quoted in Jeffries, 2002) necessary for distance education course development and distribution.

In applying step two of Banathy's (1992) model, convergence between a distance education production model and traditional higher education can occur. Rummler and Brache's Organizational Alignment Model (see Rummler and Brache, 1990) provides a useful framework for analyzing and aligning the goal-setting, structure and management practices of an institution, its distance education processes, and its staff members (Prester and Moller, 2001, p. 3). An analysis matrix has been developed for this model and is shown in Table 4.

Table 4. Organizational Alignment Model

	Goals	Structure	Management
Organization	What will distance education contribute to the institution's education goals?	How should we structure distance education within the institution to help the institution meet its goals?	How will we measure success and improve distance education's ability to help the institution meet its goals?

Process	What are the key success factors for delivering distance education such that they meet the institution's goals?	How should distance education functions be structured in order to be effective and help the institution meet its goals?	How will we measure the efficiency and effectiveness of distance education processes?
Personnel	What do we need from faculty and professional staff in order to meet our distance education goals?	How should roles and responsibilities be defined in order to meet expectations and deliver results?	How will we measure and improve teaching and learning in the distance education environment?

Adapted from Prester and Moller, 2001.

The Balanced Scorecard Model

Rogers (1995) suggests that for distance education to be successful, distance education options must follow and support university mission, goals and the educational needs of students. Institutions vary in their primary goals for providing distance education opportunities. These goals are established within socio-political contexts and constraints and may focus on serving those who, for a variety of reasons, cannot attend a traditional college or university (Porter & Lane, 2000). These include persons who live in geographically remote areas in which it is difficult or impossible to provide face-to-face teaching; those who suffer from physical disability or long term illness, which prevents them from coming to campus; those who have been displaced; and those who move frequently. Distance education is also suitable for

those who for social, economic or educational reasons missed out on the opportunities available from traditional institutions offered at traditional times and places, or who wish to retrain or update themselves, or study for personal interest and enjoyment. A whole range of enrichment, community development and vocational distance education courses are possible for adults, including distance learning opportunities provided by firms for the delivery of training opportunities on the job.

Table 5. Possible Balanced Scorecard Goals for Distance Education

Student Satisfaction Goals	Improve access: To improve access to instructional opportunities for students whose schedules and/or life or work obligations do not permit enrolment in traditional campus based programs, and/or are geographically dispersed.
	Individualized instruction: Self-paced, self-directed learning opportunities through a variety of content offerings (that utilize a variety of delivery methods) that allow for focused content selection by individuals.
	Lifelong learning: To support continuous learning, sustaining experiences beyond the time and physical constraints of the classroom.
	Value: Acceptance of distance learning opportunities by both students and employers so that educational opportunities obtained at a distance are perceived as quality offerings.
	Collaboration: To provide education opportunities that encourages interaction and collaboration.
Operating Efficiency and Effectiveness Goals	Delivery efficiency and effectiveness: To organize, update, and distribute content efficiently and effectively through content management systems.
	Technology performance: Technology is reliable and provides sufficient bandwidth to deliver content efficiently and effectively.
	Scheduling flexibility: To provide flexibility in scheduling for faculty and students, enabling them to appropriately leverage their time for teaching and learning events.
Learning	Innovate instruction: To offer new strategies for instruction that can be evaluated through performance based assessment.

Goals	Faculty development: Faculty will develop new medium-specific skills that may improve their overall teaching skills as well.
Financial Goals	Operating costs: Reduction of costs for course delivery over time.
	Return on investment: Large investments in technology and course development are justified by increases in enrolment and the reaching of new students who would not otherwise be enrolled.

Adapted from Prester and Moller, 2001, p. 5-6.

Rossner-Merrill (1996) suggests that the wide variety of potential distance education goals, particularly as they relate to "education on demand," marginalizes distance learning as an enterprise. She suggests that a uniform purpose for distance education within institutional settings needs to be established in order to afford it the same status and recognition as other mainstream educational efforts. Most of those in the distance education field would not agree. They would agree with Prester and Moller instead, who have identified four sets of distance education goals as part of what they call "a balanced approach to goal setting" (Prester and Moller, 2001, p. 5). These are summarized in Table 5 above.

As part of identifying goals and measures to be included in the balanced scorecard, those responsible for distance education programs need to assess the needs of all stakeholders, including potential and existing students, faculty, administrators, and technologists, governing bodies (legislators and accrediting agencies) and potential revenue providers (i.e. alumni, donors and granting agencies.) These stakeholders

reflect the need for both external accountability as well as internal assessment

(Stewart & Carpenter-Hubin, 2001). See Table 6.

Table 6. Externally and Internally Driven Distance Education Assessment

Externally Driven		Internally Driven
Audience	Consumers Students Parents Trainees Governing bodies Legislators Accrediting agencies Revenue generators Alumni Foundations Donors Employers	Faculty Academic administrators Non academic administrators Technical staff
Concerns	Programs (rather than courses) at a distance Branding of degrees	Organizational agenda Resource allocation priorities
Focus	Influence choices of relevant audiences	Influence support from political coalitions and/or employers
Format	Benchmarking reports Case studies Guidelines Rankings Indices	Faculty committees Institutional reports White papers

Adapted from Stewart and Carpenter-Hubin, 2001, p. 39.

Key to using the balanced scorecard approach are the steps that link the larger goals in higher education to special problems that must be solved, decisions to be made, and resource allocation choices that present themselves in the distance education environment. While the balanced scorecard approach cannot guarantee that correct

decisions will be made, the process provides for an integrated perspective on goals, targets and measures of progress. It ties together information from a variety of perspectives so that trade-offs can be weighed.

Management must be mindful of the functional interconnectedness that trade-offs imply. Improvements in one part of the distance learning environment must be accompanied by improvements in related areas and all must be monitored carefully so that gains in one part of the distance education organization will not lead to the loss of benefits somewhere else.

The Process-Behaviour Model

When viewed in terms of transformation processes, a distance learning system may be viewed as an entity designed to incorporate input from the environment, transform the input into output, distribute that output into the environment, and make adjustments as necessary to the changing conditions of the environment. The process behaviour model takes this view, providing a dynamic focus that puts emphasis on what the system does over time (Cookson, 1998). The key features of this model include putting the right people, systems and resources in place to succeed; evaluating results through cost/benefit analysis; providing feedback and taking action to maintain alignment with established educational, teaching and learning, and societal goals (Prester & Moller, 2001).

The growing diversity of delivery systems coupled with the variety of teaching and learning methods supported by these various delivery systems suggests the importance of selecting the appropriate evaluation strategies to assess the effectiveness of various distance education models. Some of the important evaluation questions include:

1. What do we get out of our investments in distance education?
2. Is distance education better, worse than, or as good as traditional education (Tucker, 2001)?
3. What can we do to increase the likelihood that our distance education offerings will be successful?
4. Will distance education allow us to increase the number of students we educate without increasing costs (Belanger and Jordon, 2000)?

These questions reflect two sets of important issues. First, the determinants of a successful distance education program, and secondly, how success (or failure) of the program is measured.

The questions raised suggest that “distance education is about change “(Moore and Kearsley, 1996, p. 15). The technology is changing constantly. Educational concepts and settings are changing. Unfortunately, there is still no agreement on the value of one evaluation strategy or another as a way of measuring the effectiveness of change strategies in the distance education environment. Educational providers are actively supporting distance education as an enterprise without identifying reliable, agreed-upon effective distance education models to use as benchmarks for performance, thus

making what Ash (2000) refers to as "a leap of faith" when promoting the value of distance education in their institutions. She suggests that educators and policy makers are so aware of this issue that there is a distinct unwillingness to accept evaluation models developed by others, however similar the circumstances, as a basis for decision making.

Major Technological Applications Currently in Use Distance Education

Discussion about the use of technology in distance education by many educators (Bates, 1990; Moore & Kearsley, 1996; Rossman, 1992) indicates that there is no "right" or "wrong" technology for distance education. Each medium and each technology has its own strengths and weaknesses (Willis, 1993; Brahmawong, 1992). One of the worst mistakes an organization or an instructor can make is to become rigidly committed to delivery by a single medium (Wagner, 1995; Brahmawong, 1992; Moore & Kearsley, 1996). The media selection process should be undertaken for each course and each program, since they all have different requirements depending on the objectives, learners, and environment (Moore & Kearsley, 1996). Moore & Kearsley (1996) point out that a decision about what technologies and media to employ should weigh many factors "...a combination of media should be selected to meet the diversity of the subject matter and learners' needs, as well as to provide redundancy and flexibility (p.100).

No one technology can support all types of teaching and learning at a distance, therefore, the most effective approach is to combine a range of technologies. Moore and Kearsley (1996) suggest that using multiple types of media (video, audio, and data) ensures that all learning styles are met and that significant methods for interaction are provided. Each of these media serves a specific purpose:

1. A strong print component can provide much of the basic instructional content in the form of a course text, as well as readings, the syllabus, and day-to-day schedule.
2. Interactive audio or video conferencing can provide real time face-to-face (or voice-to-voice) interaction. This is also an excellent and cost-effective way to incorporate guest speakers and content experts.
3. Computer conferencing or electronic mail can be used to send messages, for assignment feedback, and other targeted communication to one or more class members. It can also be used to increase interaction among students.
4. Pre-recorded video (on tape or CD/DVD) can be used to present class lectures and visually-oriented content.
5. Fax can be used to distribute assignments, last minute announcements, to receive student assignments and to provide timely feedback (University of Idaho, Guide #1, 1995).

The strengths and limitations of various distance education technologies are summarized in Table 7 below.

Table 7. Distance Learning Technologies: Strengths and Limitations

Distance Education Learning Technology	Strengths	Limitations
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		(e.g. videotape)
<u>Synchronous, computer</u>	<p>Relatively low fixed costs and low telecommunications costs</p> <p>Good for delivering information in which timing of communication is critical</p> <p>Opportunity for immediate feedback</p>	<p>Can be chaotic and confusing.</p> <p>Primarily text based and graphic communication</p> <p>Users must have access to computer and modem</p> <p>No opportunity for time shifting</p>
<u>Audio conferencing</u>	<p>Wide access to telephones in North America</p> <p>Easy to use: participants may already be familiar with technology</p> <p>Relatively low variable costs and low fixed costs</p> <p>Relatively low variable costs and low fixed costs</p> <p>Can be time shifting paired with visuals delivered via fax, mail, computer, etc.</p> <p>Opportunity for immediate feedback</p> <p>Highly interactive</p>	<p>Audio only</p> <p>No opportunity for time shifting</p>

<p><u>Asynchronous distance learning</u></p> <p>Video-based courses</p>	<p>Videocassette players widely available</p> <p>Offers sight, sound and motion</p> <p>Opportunity for re-play</p> <p>Pass-along value</p> <p>Easy to use; people already familiar with technology</p> <p>Opportunity for timeshifting</p> <p>Almost unlimited in what can be sent</p>	<p>One-way communication</p> <p>May encounter high "drop out" rate</p> <p>Production costs may be high</p> <p>International formats may be incompatible</p>
<p>Computers and modems</p>	<p>Production costs are variable, depending on the message transmission (text only? audio? video?)</p> <p>Options include email, mailing lists, and web pages</p> <p>Opportunity for timeshifting</p> <p>Highly interactive</p> <p>Can also be combined with other visual and audio communications strategies (audio cassettes, video cassettes, CD-ROMs)</p>	<p>Primarily text-based and graphics</p> <p>Message can appear "flat"</p>
<p>Multimedia on demand (just in time)</p>	<p>Permits just-in-time access to information</p> <p>User-controlled/opportunity for timeshifting</p>	<p>Production costs can be very high</p> <p>Requires high bandwidth</p>
<p>Correspondence courses</p>	<p>No limit to what can be sent, but mostly print-based</p> <p>Can be combined with audio or video cassettes or CD</p> <p>Opportunity for timeshifting</p>	<p>Not very popular anymore</p> <p>Requires self-motivated learning who are good time managers</p> <p>Interactivity is slow and difficult</p>

Adapted from "Distance Learning Technologies: Strengths and Limitations,"

Sonwalker (2001) suggests that pedagogical models developed for online distance education:

do not take full advantage of the online medium. In attempting to harness the capabilities of digital interfaces, the mistake is often made of recreating a class- room-teaching model within an online learning environment. Online technology designed to mimic the classroom becomes a restriction and a barrier to the teacher's ability to impart knowledge. A fundamental paradigm shift is necessary to create a pedagogical model with the asynchronous technological interface in mind. The pedagogy must allow for flexibility, interactivity, and media-rich and adaptive environments that both provide individualized learning and are also accessible to large numbers of learners for collaborations and group discussions (p.81).

Sonwalker (2001) presents a learning model that can be used for distance learning. This model includes five learning approaches: apprenticeship, incidental, inductive, deductive and discovery. Each model offers a unique way to represent content via a technological application. The design and development of combined media

components (text, graphics, audio, video, animation and simulations) for enhancing the learning process will depend on the learning model appropriate for the delivery of given course content.

Another way to categorize technologies used in the distance learning environment is to use the 4-square map of groupware options that was developed by Johansen et al. (1991) and cited by McIsaac and Gunawardena (2001, p 409-410).

This model seemed most suitable to our purpose because we see distance education moving from highly individualized forms of instruction, as in correspondence education, to formats that encourage teaching students as a group and collaborative learning among peers (McIsaac and Gunawardena, 2001, p. 409).

The 4-square model classifies four types of technologies that support group-learning processes: 1) same time/same place, 2) different time/different place; 3) same time/ different place; and 4) same place/different time. A current textbook in the field of distance education further expands on these four criteria, by focusing on synchronous learning (same time/ different location) as contrasted with asynchronous learning (anytime/anywhere access) (Simonson, et al., 2000). Table 8 demonstrates how the time and place continua intersect.

Table 8. Scenarios for Classroom and Distance Learning Delivery

	Same time	Different time
Same place	Classroom teaching, face-to face	Learning resource centres, labs, study centres, where learners learn at their own pace
Different place	Audio conferences and video conferences, television with one-way video, two-way audio, computer conferencing with listener-response capability	Home study, computer conferencing, interactive video, tutorial support by e-mail and fax communication

Adapted from Commonwealth of Learning, 2000 p. 6; McIsaac and Gunawardena, 2001 p. 410.

All of the technology models discussed thus far include only those technologies used for course delivery. However, the technical framework for distance learning includes a lot more. Wilde et al. (no date) created a matrix (seen in Table 9) for describing the technical environment within which distance education functions. It includes technology for course/program preparation, student support services, delivery, course/program evaluation, and feedback. It is a valuable addition to model building in the distance education environment, because even as specific technologies change, it is still a useful way of envisioning the totality of technologies needed to support the distance education effort.

Table 9. A Framework for Technology Support for Distance Education

Distance learning applications	Course/ program preparation	Student support services	Delivery: hardware and software	Course/ program evaluation, assessment & certification	Feedback devices
Instructor's Tools	Instructional Design Tools Presentation Tools Word Processing Course management tools	Word processing Electronic course content Electronic mentoring and tutors Electronic syllabus	Extended campus WANS Internet/WEB Dial-up Satellite Compressed video Cable modem DSL	Electronic testing Feedback during class	Email News groups Electronic focus groups Electronic bulletin board Video network
Network Access to Educational Resources		Extended campus Internet access FTP connection Bridging services to connect students at multiple sites	Extended campus Home/ office Modem Internet service provider Student access for: - Electronic courses - Electronic syllabuses - Electronic interaction		
E-Mail/ Interaction	Communication channels: - Students - Workgroups - News and user groups - Chat rooms	Enrollment services - Catalog - Admissions - Registration - Counseling/ Advising - Financial Aid - Security systems/ firewall - Marketing tools - Student records mgt.	Email FTP	Online - Testing - Assignments	

Library and Information Services	Resource libraries Print Media library Graphics library Software library	Online public catalog Digital library Electronic reserves Electronic syllabi Online book/ materials ordering	WAN - WEB - Dial-up FTP		
Electronic Bookstore		Ordering texts, instructional materials	WAN - Dial-up - WEB		
Storage and Distribution Tools	Servers for templates and course content	WEB portals	On-demand access (servers and network) CD ROM/ DVD Video - MPEG - JPEG - QuickTime - REAL Networks - Internet phone		

Adapted from Wilde, et al. n.d.

Technological Impact on the Distance Education Environment

There is strong consensus in the research community that technology and technology-enhanced programs can support engaged learning at a distance.

Researchers have identified many features of technology that are important to learning.

This section presents indicators for identifying effective, high-technology performance, organized within seven categories:

1. Access to appropriate and diverse technologies and resources, both on

- campus and beyond campus;
2. Operability of the technology;
 3. Organization of the technology, in terms of its location and distribution;
 4. The capacity of the technology to help students be engaged with learning;
 5. Ease of use;
 6. Functionality or the technology's capacity to serve learning needs.
 7. Reliability of the technology is as "failsafe" as possible (Institute for Higher Education Policy, April, 2000, p. 25).

Table 10. Indicators of High Technology Performance Distance Education

Variable	Indicators of High Technology Performance	Indicator Definition
Access	Robust connectivity Ubiquitous Designed for equitable use	Learners have appropriate access to sufficient bandwidth in order to access multimedia content Technology resources and equipment are pervasive and conveniently available for individual learner use All students who wish to participate in a distance education environment have access to rich, challenging interactive learning opportunities

Operability	Interoperability Open architecture Transparent	Capable of exchanging data easily among diverse formats and technologies Allows users to access third-party hardware-software Users are not --and do not need to be--aware of how the hardware/software operates
Organization	Distributed Designed for user contributions Designed for collaboration Supports principles of good practice	Technology/system resources have an appropriate balance between centralization and distributed, in order to provide maximum access Users can provide input/ideas to the technology system as needed Technology is designed to facilitate communication among users in diverse settings, using diverse technology systems Review and approval process ensures the appropriateness of the technology being used to meet the program's objectives
Engagability	Access to challenging learning opportunities Enables learning by participating Provides guided participation Access to student support services	Technology offers or allows access to content and communication linkages that stimulate thought and inquiry Technology offers opportunities for interacting and collaborating. Technology responds intelligently to user and is able to help manage new learning Technology is available to

		support and enhance students' academic, personal and social growth within the distance education environment
Ease of use	User friendliness/ user control Available training and support	Technology facilitates use by learner and is free from overly complex interfaces Training, both in-person and online, is readily and conveniently available, as is ongoing support
Functionality	Diverse tools Media use Promotes easy updating Supports learning skills Supports learning for all kinds of students, including students with disabilities	Technology enables access to full diversity of tools to support teaching and learning Technology provides opportunities to use a variety of media technologies Technology provides tools and templates that promote ease of updating content for learning. Use of course management tools is encouraged Technology facilitates development of knowledge and skills related to learning new content at a distance Multiple media will be used to reduce barriers, and reach a broader set of students
Reliability	Fast Limited or negligible downtime	Technology is fast and allows viewing and downloading of multimedia content Technology provides consistent service, without loss of time for learning

Adapted from North Central Regional Education Laboratory, n.d.

Campuses need to carefully consider whether they are well positioned to provide the requisite technological infrastructure to support distance education courses and programs.

To think that all campuses can or should develop their own [development and] delivery platforms is both inappropriate and unrealistic in this period of cost containment in higher education (Hawkins, 1999, p. 10).

A Synthesis of Directions and Theories in Distance Education

Traditional forms of distance education involve passive media such as correspondence texts, audio and video broadcasts, and often involve the learner communicating with only the instructor. Internet technologies can improve the traditional forms of distance education through increased communication (Shrum, 1998; McIssac & Gunawardena, 2001). The distinctions between newer forms of distance education utilizing Internet technologies and traditional face-to-face education are being blurred in the facilitation of individualized and collaborative learning (McIsaac & Gunawardena, 2001).

The web-based learning environment requires a constructivist learning setting for a healthy learning environment to exist. Traditionally distance education courses of the

industrial era were based on an objectivist learning setting. In this setting, teachers delivered content through satellite technologies to the passive student. Few opportunities for student-initiated questions, independent thought, or interaction between students occur in this environment. Still today this method of delivery is used and unfortunately has been transferred to some web-based courses. However, there is a shift away from this environment to a learner-centred collaborative environment utilizing constructivist-learning theory.

Constructivist learning theory is based on the assumption that learners construct knowledge as they attempt to make sense of their experiences. What we know depends on the kinds of experiences that we have had and how we organize these into existing knowledge structures. Driscoll (2000) states that new conflicting experiences will cause “perturbations in these structures” (p. 376), where new knowledge structures arise making sense of the new information. Several different constructivist-learning theories exist. Common to each theory is that (a) learning is an active rather than passive process, and (b) we construct knowledge based on what we know (Kanuka & Anderson, 1998).

The role of the teacher is to scaffold or organize information into conceptual clusters of problems, questions and discrepant situations in order to engage the students’ interest (Hanley, 1994). The constructivist environment is student centred,

and encourages students to ask questions and make their own analogies and draw their own conclusions. Teachers assist students through this individualized active process of developing insight and building of tacit knowledge.

Summary of Principles

The following is a summary of the main principles of distance education.

1. The learning experience must have a clear purpose with tightly focused outcomes and objectives.

Distance learning designs must consider the nature of content, specific context, desired learning outcomes and characteristics of the learner. Learner-centred strategies include modular, stand-alone units that are compatible with short bursts of learning. Learning modules may also be open, flexible and self-directing.

2. The learner is actively engaged.

Active, hands-on, concrete experiences are highly effective. Learning by doing, analogy and assimilation are increasingly important pedagogical forms. Where possible, learning outcomes should relate to real-life experiences through simulation and application.

3. The learning environment makes appropriate use of a variety of media.

Various learning styles are best engaged by using a variety of media to achieve learning outcomes. Selection of media may also depend on nature of content, learning goals, access to technology, and the local learning environment.

4. Learning environments must include problem-based as well as knowledge-based learning.

Problem-based learning involves higher order thinking skills such as analysis, synthesis, and evaluation while knowledge-based learning involves recall, comprehension and application.

5. Learning experiences should support interaction and the development of communities of interest.

Learning is social and sensitive to context. Learning experiences based on interaction and collaboration support learning communities while building a support network to enhance learning outcomes. Multiple interactions, group collaboration and cooperative learning may provide increased levels of interaction and simulation.

6. The practice of distance learning contributes to the larger social mission of education and training in a democratic society.

Changing mental models and constructing new knowledge empowers learners and encourages critical thinking. "Knowledge becomes a function of how the individual creates meaning from his or her experiences; it is not a function of what someone else says is true" (Jonassen et.al., 1995).

In addition, the following five considerations are key in understanding the practices of distance education:

A multimedia program is likely to be more effective than one that relies on a single medium.

A systems approach is helpful in planning distance education.

Feedback is a necessary part of a distance learning system.

To be effective, distance teaching materials should ensure that students undertake frequent and regular activities over and above reading, watching, or listening.

In choosing between media, the key decision on which the rest depend concerns the use of face-to-face learning.

Characteristics of Quality Distance Teaching and Learning:

1. Fosters meaning-making, discourse
2. Moves from knowledge transmission to learner-controlled systems

3. Provides for reciprocal teaching
4. Is learner-centred
5. Encourages active participation, knowledge construction
6. Based on higher level thinking skills -- analysis, synthesis, and evaluation
7. Promotes active learning
8. Allows group collaboration and cooperative learning
9. Provides multiple levels of interaction
10. Focuses on real-world, problem solving

Chapter Summary

The changing and diverse environment in which distance education is practiced has inhibited the development of a single theory upon which to base practice and research.

A variety of theories have been proposed to describe traditional distance education.

They include theories that emphasize independence and autonomy of the learner,

industrialization of teaching, and interaction and communication. These classical

theories emphasize the notion that distance education is a fundamentally different

form of education. Recent emerging theories based on the capabilities of new

interactive telecommunications-based audio and video systems suggest that distance

education may not be a distinct field of education. Both the utilization of existing

educational theory and the creation of equivalent experiences for the distant and local

learner are emphasized. Classical distance education theorists need to address the changes to distance education facilitated by new technologies. Advocates of the new theories must consider the relationship of these to the traditional strengths of distance education. For example, the new theories' focus on face-to-face instruction eliminates the advantage of time independent learning that traditional theories of distance education value. The debate of these theoretical issues will only increase in the face of continued technological change.

An environment in which technology, society, economics, politics, and approaches to learning are all in transition suggests that theories, definitions, and the practice of distance education will continue to be contested. This theme of change will both challenge and motivate distance educators and researchers as they strive to understand and develop effective ways to meet the needs of learners around the world.

This chapter examined the different terms, which are often used synonymously with distance education to describe a wide range of educational opportunities; from what is essentially distance education to other forms of learning that may only incorporate certain aspects of distance education. In an attempt to minimize the conceptual confusion that may be created with the use of similar terms, a fundamental definition of distance education was provided.

A basic agreed upon definition includes the following key characteristics: 1)

separation of learner and teacher for most of the learning process, 2) two-way communication in some form is provided between teacher and learner, 3) some form of media is used to carry course content and to overcome the physical separation of teacher and learner, and lastly, a higher degree of student autonomy to choose courses, set time frames, and set assessment standards is also agreed to by most theorists.

Concerns about the quality and legitimacy of distance education were outlined. As well, reasons for the growing demand of distance education, both nationally and internationally were discussed. Student populations, which are progressively becoming more and more heterogeneous, face an increased need of training, retraining, and updating of skills to acquire new jobs or to maintain their current positions. The continuously growing need for remote access to learning opportunities, combined with developing information systems and communication technologies has therefore made distance education an area of great interest in education.

The chapter also provided an overview of existing distance education principles and practices. A considerable examination of Systems Theory was offered, due to its potential to synthesise and analyse complex systems. Distance education, with its need to be flexible and adaptive, service clients, emphasise cost reduction, and respond to changing technologies is considered a complex system. It may be conceptualised and analysed from a systems perspective because it is made up of a complex set of

interdependent subsystems.

The use of Systems Theory serves as a basis for the systematic study of distance learning, contributes to conceptual insights about the complexities of distance education, and provides the basis for developing methods for enhancing the teaching-learning context that will be discussed in more detail later.

CHAPTER III

SECOND LANGUAGE ACQUISITION: AN OVERVIEW AND CRITICAL ANALYSIS OF EXISTING MODELS

This chapter presents some of the most influential theories of second language acquisition. The first section outlines the history of second/foreign language teaching. Following this, a number of general distinctions and categorizations concerning the different theories as well as criteria for the evaluation of the various theories are provided. Finally, a critical overview follows the description of each theory and its contribution to second language acquisition research.

A Brief Methodological History of Second/Foreign Language Teaching.

There have been varied interpretations as to the best way to teach English as a Second/Foreign Language over the past century (Brown, 1994b).

Teaching methods, as “approaches in action,” are of course the practical application of theoretical findings and positions.

In the field such as ours that is relatively young, it should come as no surprise to discover a wide variety of these applications, some in total philosophical opposition to others, over the last hundred years (p.51-52).

Essentially, each new method broke from the previous one, but took with it some of

the positive aspects of the previous practices. These new methods, in turn, continually provide primary data for the enlightening of further research, and the interdependent cycle goes on (Kuhn, 1970). The following section highlights the changes of English as a Second/Foreign Language teaching over the years.

Prior to the nineteenth century in the Western world, foreign language learning in schools was synonymous with “the learning of Latin or Greek” (Brown, 1994b, p.16). Latin was taught by means of what has been called the Classical method which Brown (1994a) briefly explains as: “focus on grammatical rules, memorization of vocabulary and of various declensions and conjugations, translation of texts, doing written exercises” (p.16). Later in the eighteenth and nineteenth centuries, when other languages were taught in educational institutions, the Classical Method was adopted as the chief means for teaching foreign languages (Richards & Rodgers, 1986).

Little thought was given at the time to teach oral use of languages; after all, languages were not being taught primarily to learn oral/aural communication but to learn for the sake of being “scholarly” or, in some instances, for gaining a reading proficiency in a foreign language. Since there was little if any theoretical research on second language acquisition in general, or on the acquisition of reading proficiency, foreign languages

were taught as any other subject was taught (Brown, 1994a, p.16).

At the end of the nineteenth century, teachers and linguists began to seek new approaches to language teaching. This effort was known as the *Reform Movement* in language teaching. Basically, the movement proponents believed that: a) the spoken language is primary and that this should be reflected in oral-based methodology, and b) second/foreign language learning should be more like first language learning (Richards & Rodgers, 1986). As a result of this principle, the Direct Method was developed.

The Direct Method emphasizes the speaking skills of second/foreign language by engaging learners in oral based practice. It was first introduced in France and Germany, and became widely known in the United States through its use in commercial language schools. The Direct Method was successful in private language schools, but was difficult to implement in public school education. In addition, it failed to consider the practical realities of the classroom such as restricted time and limited skills of teachers. By the 1920s, use of the Direct Method in non-commercial schools in Europe had consequently declined due to its several drawbacks and impracticality (Richards & Rodgers, 1986). In the 1920s and 1930s, teachers and

linguists systematized the principles proposed earlier by the Reform Movement and so laid the foundations for what developed into Audiolingualism in North America and Situational Language Teaching in the U.K. Essentially, both stressed the mechanistic aspects of language learning and language use (Richards & Rodgers, 1986).

In the 1970s and 1980s, the growing interest of the field of psychology in interpersonal relationships, in the value of group work, and in the use of numerous self-help strategies for coping with the stresses of daily living stimulated the development of communicative language teaching. This method stressed the importance of self-esteem, of students cooperatively learning together, of developing individual strategies for success, and above all, of focusing on the communicative process in language learning (Brown, 1994b). Brown (1994b) states that the term “communicative language teaching” has since become a byword for language teachers. Today, interest has also switched to probing the nature of social, cultural, and pragmatic features of languages. In general, fluency rather than accuracy is focused on in today’s language classroom. With respect to the current and future trend of language teaching, Brown (1994b) concludes:

We are equipping our students with tools for generating unrehearsed language performance “out there” when they leave the womb of our classroom. We are concerned with how

to facilitate lifelong language learning among our students, not just with the immediate classroom task. We are looking at learners as partners in a cooperative venture. And our methods seek to draw on whatever intrinsically sparks learners to explore and create (p.273-274).

Methodology is not something fixed. Rather, it is a dynamic, creative, and exploratory process (Brown, 1994a; Nunan, 1991). With a sound understanding of each English as a Second/Foreign Language teaching method, the teacher's job is to match his or her teaching preferences, the learners' learning styles and needs, and the constraints of the school or educational setting to the method (Richards & Rodgers, 1986; Nunan, 1991). Furthermore, Richards and Rodgers (1986) noted that there is a good deal of insight to be gained, and intuition to be developed, from examining the merits of each English as a Second/Foreign Language teaching method. These insights and intuitions will then guide the development of on-line second language instruction.

In Table 15 below, ten teaching methods that have made a significant contribution to second language learning are summarised.

Table 11. Overview of Language Approaches

Approach	Theory of	Theory of	Objectives	Syllabus
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or Method	Language	Learning		
Audiolingual	Language is a system of rule-governed structures hierarchically arranged.	Habit formation; skills are learned more effectively if oral precedes written; analogy not analysis.	Control of structures of sound, form and order; mastery over symbols of the language; goal: native speaker mastery.	Graded syllabus of phonology, morphology, and syntax. Contrastive analysis.
Total Physical Response	Basically a structuralist, grammar-based view of language.	Second language learning is the same as native language learning; comprehension before production, is “imprinted” through carrying out commands (right brain functioning); reduction of stress.	Teach oral proficiency to produce learners who can communicate uninhibitedly and intelligibly with native speakers.	Sentence-based syllabus with grammatical and lexical criteria being primary, but focus on meaning not form.
The Silent Way	Each language is composed of elements that give it a unique rhythm and spirit. Functional vocabulary and core structure are a key to the spirit of the language	Processes of learning a second language are fundamentally different from native language learning. Second language learning is an intellectual, cognitive process. Surrender to the music of the language.	Near native fluency, correct pronunciation, basic practical knowledge of the grammar of the second language. Learner learns how to learn a language.	Basically structural lessons planned around grammatical items and related vocabulary. Items are introduced according to their grammatical complexity.

<p style="text-align: center;">Community Language Learning</p>	<p>Language is more than a system for communication.</p> <p>It involves whole person, culture, educational, developmental communicative processes.</p>	<p>Learning involves the whole person.</p> <p>It is a social process of growth from child-like dependence to self-direction and independence.</p>	<p>No specific objectives.</p> <p>Near-native mastery is the goal.</p>	<p>No set syllabus.</p> <p>Course progression is topic based; learners provide the topics.</p> <p>Syllabus emerges from learners' intention and the teacher's reformulations.</p> <p>Based on selection of communicative activities and topics derived from learner needs.</p>
<p style="text-align: center;">The Natural Approach</p>	<p>The essence of language is meaning.</p> <p>Vocabulary not grammar is the heart of the language.</p>	<p>There are two ways of second language development: "acquisition"-a natural subconscious process, and learning-a conscious process.</p> <p>Learning cannot lead to acquisition.</p>	<p>Designed to give beginners and intermediate learners basic communicative skills.</p> <p>Four broad areas: basic personal communicative skills (oral/written); academic learning skills (oral/written).</p>	<p>Based on selection of communicative activities and topics derived from learner needs.</p>

Suggestopedia	Rather conventional, although memorisation of whole meaningful texts is recommended.	Learning occurs through suggestion, when learners are in a deeply relaxed state. Baroque music is used to induce this state.	To deliver advanced conversational competence quickly. Learners are required to master prodigious lists of vocabulary pairs, although the goal is understanding not memorisation.	Ten unit courses consisting of 1,200 word dialogues graded by vocabulary and grammar.
Communicative Language Teaching	Language is a system for the expression of meaning. The primary function is for interaction and communication.	Activities involving real communication; carrying out meaningful tasks; and using language that is meaningful to the learner.	Objectives will reflect the needs of the learner; they will include functional skills as well as linguistic objectives.	Will include some/all of the following: structures, functions, notions, themes, and tasks. Ordering will be guided by learner needs.

Summary

In the preceding section, major language teaching methods were reviewed. These methods were selected because they are applications of theoretical findings and positions; they have been adopted by a large population of English as a Second/Foreign Language educators; and they have been discussed in a great number of English as a Second/Foreign Language studies. Differences in the teaching methods reflect differences in the theories underlying each method.

As the preceding section illustrated, various developments in English as a

Second/Foreign Language teaching methods have taken place in the last thirty years.

Currently there is more emphasis on individualized instruction, authenticity in

language learning, a greater focus on the learner, and on the development of

communicative, as opposed to merely linguistic, competence (Kitao & Kitao, 1998).

In addition, the advent of new technologies has had a considerable impact on foreign

language teaching. The latest benefit to language teaching is the computer and it may

substantially influence the way languages are taught.

Classification Criteria

Over the past three decades a number of different theories of second language acquisition have been formed in an effort to provide explanations as to how language learning takes place, to identify the variables responsible for second language acquisition, and to offer guidance to second language teachers. Each theory accounts for language acquisition from a different perspective so some criteria are needed in order to classify and evaluate each theory.

Theories of second language acquisition can be classified according to different criteria. According to their *form* theories can be classified along a continuum with 'deductive' on one end and 'inductive' on the other. Theories following the deductive approach contain concepts and constructs that are assumed to be true without proof.

These are the axioms of the theory. Laws of logic are applied on these axioms to

obtain the ‘hypotheses’ of the theory. If these hypotheses are empirically supported then they become the laws and facts of the theory (McLaughlin, 1987, p.8).

Unlike the deductive approach, the inductive approach does not begin with axioms. Instead it is empirically based. Theoretical statements are formulated after a significant amount of empirical relationships have been established.

Theories that follow the inductive approach formulate hypotheses based on certain empirical facts (McLaughlin, 1987, p.9). With regard to the *content*, theories are distinguished into ‘macro’ and ‘micro’ theories. Macro theories in second language acquisition have a wide scope and cover a broad range of language learning phenomena. Micro theories deal with specific phenomena and they have a narrow scope (McLaughlin, 1987, p.9). For example, a macro theory would address a wide range of factors involved in the language learning process, while a micro theory would focus on a specific factor such as how a specific syntactic feature of the target language is acquired.

Evaluating Theories

McLaughlin (1987) discusses two of the most basic criteria for evaluating a theory: its definitional adequacy and its explanatory power. The term ‘definitional adequacy’ refers to the concepts of a theory and their correspondence to some external reality.

That is, the concepts of a theory should be defined in such a way so that ambiguity

and confusion are eliminated and different people can interpret them in the same way (McLaughlin, 1987, p.12). The explanatory power of a theory is measured by the correspondence of the theory to the facts that the theory is supposed to explain. In order to enhance the definitional adequacy of theories, theoretical concepts are treated as synonymous with the operations that are necessary for their measurement resulting in 'operational definitions' (McLaughlin, 1987, p.13). For example the operational definition for the term 'listening ability' is the score that a learner achieves on a test designed to measure his/her listening comprehension. Furthermore, a theory should also have explanatory power. It should not only describe certain phenomena but also offer explanations as to why a certain phenomenon occurs. Here it is important that theorists do not over-estimate the truth-value of their theory (McLaughlin, 1987, p.14).

Finally, a theory is validated by what it suggests and predicts as well as by what it affirms explicitly. In assessing the validity and usefulness of a theory one should consider the theory's correspondence to the facts and internal coherence as well as the predictions that the theory makes. Researchers are always interested in and looking for theories that can generate hypotheses (McLaughlin, 1987, p.17). In the next section, a number of influential theories in second language acquisition are outlined.

Theories and Models of Second Language Acquisition

Second language acquisition theories were developed along the lines of first language acquisition theories. Over the past three decades, studies in linguistics have focused on second language acquisition; investigating how a second language is acquired, describing different stages of development and assessing whether second language acquisition follows a similar route to that of first language acquisition. A number of theories of second language acquisition were formulated, either deductively or inductively, and research in the second language classroom flourished.

The Monitor Model. Stephen Krashen's model is one of the most influential and well-known theories of second language acquisition. In the late 1970s Krashen developed the Monitor Model, an overall theory of second language acquisition, which had important implications for language teaching. Table 12 below summarises the five central hypotheses underlying the Monitor Model:

Table 12. The Monitor Model's Central Hypotheses

i) The Acquisition versus Learning Hypothesis	Acquisition is a subconscious process, much like first language acquisition, while learning is a conscious process resulting into "knowing about language" (Krashen, 1982, p.10). Learning does not "turn into" acquisition and it usually takes place in formal environments, while acquisition can take place without learning in informal environments (Krashen, 1976; 1982).
ii) The Monitor Hypothesis	Learning has the function of monitoring and editing the utterances produced through the acquisition process (Krashen, 1982, p.15). The use of the Monitor is affected by the amount of

	time that the second language learner has at his/her disposal to think about the utterance he/she is about to produce, the focus on form, and his/her knowledge of second language rules (Krashen, 1981, p.3-4).
iii) The Natural Order Hypothesis	There is a natural order of acquisition of second language rules. Some of them are early-acquired and some are late-acquired. This order does not necessarily depend on simplicity of form while it could be influenced by classroom instruction (Krashen, 1985). Evidence for the Natural Order Hypothesis was provided by a series of research studies investigating morpheme acquisition orders.
iv) The Input Hypothesis	According to Krashen, receiving comprehensible input is the only way that can lead to the acquisition of a second language. If a learner's level in a second language is <i>i</i> , he/she can move to an <i>i+1</i> level only by being exposed to comprehensible input containing <i>i+1</i> (Krashen, 1985).
v) The Affective Filter Hypothesis	Comprehensible input will not be fully utilized by the learners if there is a 'mental block', i.e. the 'affective filter', which acts as a barrier to the acquisition process (Krashen, 1985).

Krashen's Monitor Theory is an example of a macro theory attempting to cover most of the factors involved in second language acquisition: age, personality traits, classroom instruction, innate mechanisms of language acquisition, environmental influences, input, etc., but not without limitations.

Despite its popularity, the Monitor Theory is criticized by theorists and researchers mainly on the grounds of its definitional adequacy. Gregg (1984) rejects the most fundamental of Krashen's Hypotheses, the acquisition-learning dichotomy. Following

a string of arguments, Gregg concludes that under normal conditions the Monitor cannot be used and since it is the only way in which learning can be utilized, there is no need to talk about two different ways of gaining competence in a second language.

Criticism was also expressed by McLaughlin (1987). McLaughlin acknowledges Krashen's attempt to develop an extensive and detailed theory of second language acquisition, but finds it inadequate in that some of its central assumptions and hypotheses are not clearly defined and thus are not readily testable (e.g. the acquisition-learning dichotomy is based on "subconscious" and "conscious" processes respectively, which have not been clearly defined by Krashen although he operationalized them in his studies (see Krashen, Butler, Birnbaum, & Robertson (1978) for an investigation of grammaticality judgments based on "feel" and "rule" for subconscious and conscious acquisition respectively), while other assumptions aiming to enhance the explanatory power of the Monitor Theory are not based on well-established theories and research (e.g. the Natural Order hypothesis). Furthermore, the role assigned to unconscious learning was found to be overestimated and exaggerated. Instead subsequent studies drew attention to the role of consciousness in second language learning and how much learners notice and what they think as they learn second languages.

Despite the various criticisms, Krashen's Monitor Theory of second language

acquisition has had a great impact on the way second language learning is viewed, and has initiated research towards the discovery of orders of acquisition.

Interlanguage Theories

The term interlanguage was first used by Selinker (1969) to describe the linguistic stage second language learners go through during the process of mastering the target language. Since then, ‘interlanguage’ has become a major strand of second language acquisition research and theory. This section outlines the three main approaches to the description of interlanguage systems.

According to Selinker (1972) interlanguage is a temporary grammar, which is systematic and composed of rules. These rules are the product of five main cognitive processes summarised in Table 13 below.

Table 13. The Main Cognitive Processes of Interlanguage

i) Overgeneralisation	Some of the rules of the interlanguage system may be the result of the overgeneralization of specific rules and features of the target language.
ii) Transfer of Training	Some of the components of the interlanguage system may result from transfer of specific elements via which the learner is taught the second language.
iii) Strategies of Second Language Learning	Some of the rules in the learner's interlanguage may result from the application of language learning strategies “as a tendency on the part of the learners to reduce the TL [target language] to a simpler system” (Selinker, 1972, p.219).
iv) Strategies of Second Language Communication	Interlanguage system rules may also be the result of strategies employed by the learners in their attempt to communicate with native speakers of the target language.

<p>v) Language Transfer</p>	<p>Some of the rules in the interlanguage system may be the result of transfer from the learner's first language.</p>
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Selinker's description of the interlanguage system has a cognitive emphasis and a focus on the strategies that learners employ when learning a second language. A different approach to the theory of interlanguage was adopted by Adjemian (1976) in his attempt to describe the nature of the interlanguage systems.

Adjemian argues that interlanguages are natural languages but they are unique in that their grammar is permeable (Adjemian, 1976). He also differentiates between the learning strategies that learner's employ and the linguistic rules that are "crucially concerned in the actual form of the language system" (Adjemian, 1976, p.302).

Adjemian (1976) concludes that the description of these linguistic rules that will reveal the properties of the learner's grammar should be the primary goal of linguistic research.

The third approach to the description of interlanguage was initiated by Tarone (1979, 1982). She describes interlanguage as a continuum of speech styles. Learners shift between styles according to the amount of attention they pay to language form. They move from the superordinate style in which attention is mainly focused on language form to the vernacular style in which the least attention is paid to language

form. The new target language forms first appear in the more careful style and progressively move towards the vernacular style. The systematic variability of interlanguage systems is reflected to the variable effect which the different tasks and different linguistic contexts have on the learners' use of syntactic, phonological and morphological structures (Tarone, 1982).

Even though Tarone does not deny that other theories can provide explanations of second language acquisition, she argues that “any adequate model of second language acquisition [second language acquisition] must take IL [interlanguage] variation into account” (Tarone, 1990, p.398).

Different approaches were employed for explaining the acquisition of interlanguage and how learners discover and organize form-function relationships in a second language. Ellis (1985) argues that learners begin with forms, which are used in free variation during the early stages of second language acquisition (non-systematic variability) until more organizing and restructuring has taken place (systematic variability). In contrast to Ellis's claims, the functional approach to the analysis of interlanguage argues that discourse functions develop before grammatical functions and evidence is provided of the acquisition of function occurring without the acquisition of form (Pfaff, 1987). The role of the mother tongue in the acquisition of the target language was re-examined under the scope of the interlanguage theory and

predictions were made about when the influence of the mother tongue is greatest. Zobl (1980a, 1980b) investigated the mother tongue influence on target language acquisition and argued that it is “the formal features of the target language that control the formal aspects of its acquisition, including the activation of mother tongue transfer” (Zobl, 1980a, p.54, 1980b).

The approaches to the study of interlanguage, as described above, agree on two basic characteristics of interlanguage systems:

1. interlanguages are systematic (systematic either in the form of learning strategies the learners employ or linguistic rules that govern the learners' grammars),
2. and dynamic (interlanguages keep changing until the target language system is fully acquired).

The scope of these approaches is also common: interlanguage is seen as a kind of interim grammar gradually progressing towards the target language grammar.

Morpheme studies were employed to describe the systematicity of interlanguage systems and also the various stages of interlanguage development until the target form is acquired.

The interlanguage theories were inductively derived from studies following Error Analysis, the view that by analyzing learners' errors we can predict the linguistic stage

that a learner is at. However, Error Analysis as a mode of inquiry is limited in its scope and concentrates on what learners do wrong rather than on what makes them successful (Larsen-Freeman & Long, 1991, p.61). In that respect, interlanguage theories are limited in their explanatory power.

Universal Grammar Theories

Universal grammar theories are based on Chomsky's claim that there are certain principles that form the basis on which knowledge of language develops. These principles are biologically determined and specialized for language learning (Chomsky, 1969, 1980, 1986). Originally, Universal Grammar theory did not concern itself with second language learning. It referred to the first language learner. However, its principles were adopted by second language researchers and were applied in the field of second language acquisition.

Universal Grammar was used in order to provide explanations for the existence of developmental sequences in interlanguage and to support the view of interlanguage as a natural language, which is subject to the constraints of the Universal Grammar (Hilles, 1986, p.45). The use of Universal Grammar for language transfer, fossilization and second language pedagogy was also suggested. Evidence was provided that adults have some sort of access to knowledge of Universal Grammar, and this knowledge is used in the development of foreign language competence (Bley-Vroman, Felix, 1985).

The effect of the mother tongue in determining the magnitude of the second language-learning task is reflected in the model of the learning process that Corder (1978) suggested. According to this model the learner begins his/her learning task from a basic Universal Grammar (or built-in syllabus) that gradually becomes more complex in response to the learner's exposure to target language data and the communicative needs s/he is faced with.

This elaboration process follows a constant sequence for all learners of a particular second language, but the progress of any particular learner is affected by the degree to which his/her knowledge of the target language in the form of mother-tongue-like features facilitates his/her learning process.

In summary, Universal Grammar theories of second language acquisition were generated in order to provide explanations for empirical evidence and they were primarily concerned with the internal mechanisms that lead to the acquisition of the formal aspects of the target language and the similarities and differences between acquiring a particular language as a first or a second language. Although researchers have used Universal Grammar to generate a number of interesting hypotheses about second language acquisition, and generative theorists regard Universal Grammar as the best theory of grammar because of its descriptive and explanatory adequacy (Ellis, 1994, p.429), empirical evidence has been restricted to the acquisition of a small set of

syntactic phenomena. A general theory of second language acquisition needs to cover a wider range of phenomena (McLaughlin, 1987, p.108).

Cognitive Theories

Psychologists and psycholinguists viewed second language learning as the acquisition of a complex cognitive skill. Some of the sub-skills involved in the language learning process are applying grammatical rules, choosing the appropriate vocabulary, following the pragmatic conventions governing the use of a specific language (McLaughlin, 1987, p.134). These sub-skills become automatic with practice (Posner & Snyder, 1975). During this process of automatisisation, the learner organizes and restructures new information that is acquired. Through this process of restructuring the learner links new information to old information and achieves increasing degrees of mastery in the second language (McLaughlin, 1987, 1990a). This gradual mastering may follow a U-shaped curve sometimes (Lightbown et.al., 1980) indicating a decline in performance as more complex internal representations replace less complex ones followed by an increase again as skill becomes expertise (McLaughlin, 1990b). From the cognitivist's point of view language acquisition is dependent "in both content and developmental sequencing on prior cognitive abilities" and language is viewed as a function of "more general nonlinguistic abilities" (Berman, 1987, p.4).

Evidence against the cognitivist theory is provided by Felix (1981) who describes the general cognitive skills as “useless” for language development (Felix, 1981). The only areas that cognitive development is related to language development is vocabulary and meaning, since lexical items and meaning relations are most readily related to a conceptual base (Felix, 1981).

A base in cognitive theory is also claimed by the interactivist approach to second language learning (Clahsen, 1987). The language processing model proposed by the interactivist approach “assumes an autonomous linguistic level of processing” and contains a general problem solver mechanism that allows “direct mappings between underlying structure and surface forms, thus short-circuiting the grammatical processor” (Clahsen, 1987, p.105).

The language acquisition theories based on a cognitive view of language development regard language acquisition as the gradual automatization of skills through stages of restructuring and linking new information to old knowledge. However, the differences between the various cognitive models makes it impossible to construct a comprehensive cognitive theory of second language acquisition and furthermore, as Schmidt (1992) observes: “there is little theoretical support from psychology on the common belief that the development of fluency in a second language is almost exclusively a matter of the increasingly skilful application of rules”

(Schmidt, 1992, p.377).

The last two theories addressed in this study, the Multidimensional Model and the Acculturation/Pidginization Theory, refer mainly to the acquisition of a second language by adults in naturalistic environments.

Multidimensional Model

In the Multidimensional Model, the learner's stage of acquisition of the target language is determined by two dimensions: the learner's developmental stage and the learner's social psychological orientation. The developmental stage is defined by accuracy orders and developmental sequences, but within a stage learners may differ because of their social psychological orientation, which is independent of developmental stage. Thus a 'segregatively' oriented learner uses more restrictive simplification strategies than an 'integratively' oriented learner who uses elaborate simplification strategies. The segregative learner is more likely to fossilize at that stage than is the integrative learner who has a more positive attitude towards learning the target language and a better chance of learning the target language well (see also Clahsen, Meisel & Pienemann, 1983).

The Multidimensional Model has both explanatory and predictive power in that it not only identifies stages of linguistic development but it also explains why learners go through these developmental stages and it predicts when other grammatical

structures will be acquired (Ellis, 1994, p.384).

Although the Multidimensional Model has made important contributions to second language acquisition research, there are some problems with the “falsifiability” of its predictive framework, such as explaining how it is that learners learn whatever they manage to produce despite the processing constraints (see also Larsen-Freeman & Long, 1991, p.285; McLaughlin, 1987, p.114-115). Furthermore, the Multidimensional Model does not explain the process through which learners obtain intake from input and how they use this intake to reconstruct internal grammars (Ellis, 1994, p.388). In this respect the Multidimensional Model is limited.

Acculturation/Pidginization Theory

According to Schumann (1978) second language acquisition is just one aspect of acculturation and the degree to which learners acculturate to the target-language group will control the degree to which they acquire the second language. From this perspective, second language acquisition is greatly affected by the degree of social and psychological distance between the learner and the target-language culture.

Social distance refers to the learner as a member of a social group that is in contact with another social group whose members speak a different language. Psychological distance results from a number of different affective factors that concern the learner as an individual, such as language shock, culture shock, culture stress, etc. If the social

and/or psychological distance is great then acculturation is impeded and the learner does not progress beyond the early stages of language acquisition. As a result his/her target language will stay pidginized. Pidginization is characterized by simplifications and reductions occurring in the learner's interlanguage which lead to fossilization when the learner's interlanguage system does not progress in the direction of the target language (for a review see McLaughlin, 1987, p.110-112).

Schumann's theory received limited empirical support. Among some of the criticisms that the acculturation theory received was that social factors are assumed to have a direct impact on second language acquisition while they are more likely to have an indirect one (Ellis, 1994, p.233). Also, pidginization is a group phenomenon, while language acquisition is an individual phenomenon. Finally, the acculturation model fails to explain how the social factors influence the quality of contact the learner's experience (Ellis, 1994, p.234).

Summary of Principles and Practices

There are countless theories and opinions as to how people acquire both first and second languages, as well as theories and opinions regarding teaching approaches, the assessment of language proficiency and the optimal method to use in structuring a language course, among other aspects of English language teaching.

It is not always beneficial to adhere to any one educational philosophy, theory of

language acquisition, second language teaching method, or assessment method.

Adhering to a single outlook can be constricting in practice. Rather than relying on one method, a professional should be familiar with many different theories and methods, and then use the aspects of each of these theories and techniques that seem the most salient to him or her in a given teaching situation (Larsen-Freeman, 2000).

This seeming lack of commitment to any one ideology is explained by the fact that there currently is not, nor likely to ever be, one theory or teaching method which can guide a practitioner through the entire multi-faceted world of second language acquisition and instruction.

Theorists throughout the history of the field of second language acquisition have been at odds as to how exactly languages are acquired, and how the nature of acquisition should translate into teaching methods (Brown, 2000). Theorists such as Noam Chomsky, Stephen Krashen, Barry McLaughlin and even B.F. Skinner all inform beliefs regarding second language acquisition. While none of these theorists is completely right in their assertions, neither are any of them entirely wrong. A certain amount of the stimulus-response approach associated with Skinner seems to play a role to at least some degree in the acquisition of language, although not to the extent proposed by Skinner (Lightbown et.al., 1980). On the other hand, there is also definitely a universal grammar of sorts, as described by Chomsky. However, teaching

in a manner that is in complete congruence with Chomsky's theory seems to be impossible, as the partial failure of some teaching approaches associated with the natural method make clear (Grittner, 1990). While the ideas of Stephen Krashen, one of the main theorists associated with this method, seem theoretically sound, when applied to many learning situations, such as adult ESL, they leave a great deal to be desired. Factors such as a heightened ability of adults to think metacognitively, the less time they have to learn the language and a raised affective filter lead to the difficulties associated with the method (Brown, 2000). Therefore, one cannot rely on them solely to inform one's practice.

The ideas of Barry McLaughlin and researchers investigating brain-based learning on automaticity, acquisition, and the need for the brain to make connections appear to be a melding of these two diametrically opposed traditions, in a manner which could be described as principled eclecticism (Genesee, 2000). McLaughlin accounts for both the perceived ease with which children learn language that is often cited as evidence for Krashen's natural approach and the problems associated with Skinner's stimulus-response explanations, through the brain's innate ability to make connections. It would appear, then, that a principled eclectic approach to theory serves one better than limiting oneself to a singular model.

The importance of principled eclecticism becomes even more apparent when one

looks at the use of teaching methods. It has become apparent that the communicative method is far more useful when techniques and approaches associated with other methods are used in tandem with it. There is still a great deal of worth in many of the methods that have been discarded by so many practitioners. For example, suggestopedia, as promulgated by Georgi Lazonov, is in many ways a very poor method of language teaching, and one would be well advised not to rely on it solely to meet the needs of one's students. Its suggestion however, that students' affective filters need to be lowered in order for acquisition to occur has been proven to be a valid one. Its insistence on a certain degree of infantilisation seems a useful way of achieving this affect (Larsen-Freeman, 2000).

The same mixture of shortcoming and strength can be attributed to all teaching methods. Asher's (1977) Total Physical Response (TPR) is useful with beginning students, but plays less of a role with more advanced students. Furthermore, even though TPR is useful with beginning students, if the method is not accepted as valid by the students being taught, problems will occur, and other means of instruction must be explored.

Chapter Summary

The second language acquisition theories reviewed in this section have paid

attention to different aspects of the process of acquiring a second language and have provided valuable background and hypotheses for numerous research studies. All of the theories regard second language acquisition as a gradual process. Whether language learners use strategies, cognitive, or innate mechanisms, they still have to progress towards the target language going through various stages of development.

Although theories are primarily concerned with providing explanations about how languages are acquired, no single theory can offer a comprehensive explanation about the whole process of second language acquisition. Each theory offers a different insight in the complex process of second language acquisition.

For example, during the era of developmental studies, Larsen-Freeman (1978), in an effort to provide an explanation for the morpheme acquisition order in second language learning, concludes that the morpheme frequency of occurrence in native speaker speech is the principle determinant for the morpheme order in the speech production of second language learners. However this conclusion seen under the light of different theories of second language acquisition can provide a number of different explanations.

From the cognitivist's point of view this finding is evidence that the learner, in the process of testing his/her hypotheses about the target language system, has managed, due to the frequency of occurrence of a particular construction, to refine his/her

hypothesis about a specific rule.

Another explanation based on the affective factors influencing second language acquisition could suggest that the learners, in their effort to match the gestalt of the native speaker input to which they are exposed, acquire and produce the appropriate morphemes in their speech (Larsen- Freeman, 1978). Larsen-Freeman (1978) concludes that there is not a single explanation that could work for all learners, and that different learners may rely on different strategies when learning a second language, depending on a number of different variables such as the target language input they are exposed to, their cognitive style, their motivation, or their proficiency in the target language.

The large number of second language acquisition theories shows the great interest that the study of second language acquisition has produced over the past three decades. Despite their controversies, the theories of second language acquisition have managed to initiate various research questions and to shed light on a number of linguistic and cognitive processes.

A basic knowledge of language acquisition theories is extremely useful when attempting to integrate second language education and distance education. This knowledge influences the ability to provide appropriate content-area instruction to foreign language students at a distance. There will be a return to the discussion of

second language acquisition theories in chapter four when the combination of distance education and foreign language teaching are examined.

CHAPTER IV

THE INTEGRATION OF DISTANCE EDUCATION AND SECOND LANGUAGE TEACHING

Introduction

Upon examining the goals of foreign language teaching, one will soon discover that the use of distance education technologies such as the Internet can be a useful aid in attaining second language acquisition objectives. For example, the American Standards of Foreign Language Learning (National Standards in Foreign Language Learning Project, 1996; See Appendix A) focuses on language, communication, and culture, making the application of authentic materials increasingly important. In this context teachers are looking for better ways of providing experiences that will improve their students' knowledge and skills in these target areas (LeLoup & Ponterio, 1998).

As LeLoup & Ponterio (1998) point out, by using the Internet "several activities can be devised ... that also are excellent exemplars of the goals of the Standards for Foreign Language Learning." Standard 1.1, for instance, says that students should "engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions". In a traditional classroom, where there is only one teacher to talk to, engaging in real and meaningful conversations is virtually an

unattainable goal. This is where the technologies and processes of distance education can prove beneficial. Through various applications, such as Computer-Mediated Communication (CMC), in the form of e-mail and Internet Relay Chat (IRC), an exchange of ideas and opinions can take place.

By having access to vast resources of authentic material about foreign cultures, students are able to gain knowledge and understanding of these cultures (Standard 2). The Internet enables learners to participate in multilingual communities at home and around the world (Standard 5), so that they will use the language both within and beyond the school setting. The ultimate goal of turning students into life-long learners “by using the language for personal enjoyment and enrichment” (Standard 5.2) becomes much more realistic when students use current distance education methods of instruction, such as computer mediated communication.

Raimes (1983) views teaching language as a paradigm which:

1. sees language as communication;
2. emphasises real language use;
3. recommends a student-centred classroom;
4. encourages real language acquisition instead of just learning a set of grammatical rules;
5. develops humanistic, interpersonal approaches, and
6. considers the nature of the learner, the learning process, and the learning

environment.

Distance education can play an important role in each of these categories. The Internet encourages communication and offers possibilities that would never be feasible in a traditional classroom setting. Furthermore, the use of computer mediated communication supports the shift from the traditional teacher-centred classroom to one in which the student is in the centre. Using computers and talking live to peers often motivates students and encourages them to learn more. Finally, since conveying messages plays a paramount role on the Internet, students will learn social skills and, as such, the Internet can be seen as an agent for socialisation (Berge & Collins, 1995).

Of course, the Internet alone cannot meet these goals and objectives. It is merely a tool. It is up to distance education designers, course developers, and teachers to integrate the application of the Internet into the curriculum. However, since target language communication and cultures are well within reach through distance education technologies, this will make a tremendous impact on the ability of students to communicate directly with native speakers (LeLoup & Ponterio, 1998).

The Need for Integration of Distance Education and Second Language Instruction

In developing countries, where the demand for learning a second language is increasing, there is often a need to provide distance language instruction. With that

demand has come increased reliance on distance instruction methods. For example, the World Bank and the United States Agency for International Development (USAID) have funded pilot distance instruction programs in developing countries to eliminate language barriers and illiteracy that divide nations and limit opportunity. Because of lack of resources to provide large-scale, face-to-face instruction, governments in Latin America and Southeast Asia have launched distance instruction systems to teach English for achieving what they call “democratization of education” (Limcaco, 1988, p.156). In the Republic of South Africa, distance learning of English through radio is testing new strategies for equalizing opportunity (Reddy, 1995).

In developed as well as developing countries, the demand for learning a second language has increased for different reasons. These include: the influx of immigrants and the expansion of international trade; the need to provide an educated populace with a shared national language for the purpose of national development and social harmony; and the need to include minority ethnic groups that are often excluded from traditional education institutions (May, 1994).

Industrialised nations also face increased demands for second language instruction in order to assimilate large numbers of immigrants and provide foreign language instruction for students planning careers in the international arena (Layne & Lepeintre, 1996). In 1995, the U.S. Department of Education announced its plan to invest over

seven million dollars over the next five years to conduct research and development on improving computer-based literacy and learning among adults in communities for whom English is a second language. The stated goal was to enable individuals to “acquire the basic skills needed for work and responsible citizenship” (U.S. Department of Education, 1995, p.54).

The decision to invest in distance language instruction is motivated by three issues: 1) a need to be cost-efficient, 2) a need to improve effectiveness of instruction, and 3) a need to provide access for large numbers of individuals who are unable to participate in face-to-face classes for widely diverse reasons (Layne & Lepeintre, 1996; Horner & Roberts, 1991). In viewing technology alternatives in distance language instruction, the extent to which a program achieves the specified learning aims and program goals is only one of the central issues. Of equal importance in sustaining any program is its demonstrated cost-effectiveness (Layne & Lepeintre, 1996).

While one might question the assertion that communication technology has been a primary driver of change in education (Moore, 1993), Layne & Lepeintre (1996) state that instructional methodology has evolved in concert with media technology. This notion is supported by investments of many public and private sectors, which have developed programs testing the applicability of each new technological advance to problems of language education. Examples of programs utilizing various

combinations of media technology include the following as summarized by Layne & Lepeintre (1996):

A print-based primary in-service teacher training program in Uganda to teach Kiswahili; a radio-based series to teach national languages to far-flung Indian villages in the mountains of Guatemala and the Bolivian Andes, to Haitian immigrants in border villages of the Dominican Republic, and to citizens of former Homelands of the Republic of South Africa; teleconferencing and computer linkages in the Pacific Islands for teacher training; commercially available CD-ROM courses to teach language; the newly launched WGBH-Boston television based “Destinos” series to teach Spanish; and the current excess of computer-networking applications to language learning (p.228).

Successful experiments in language instruction through distance education were reported as early as 1960 by Lam, et al. (1960), who described the use of broadcast television to teach Spanish and English in Kentucky and Indiana. Similar results were reported by Scott et al. (1982) in an American Samoan experiment in which a key element was teaching English in order to use it as the major medium of instruction.

Boyle (1994), in his study of post-graduate students who enrolled at an English-medium school of engineering in Thailand, concluded that his English as a Foreign Language pre-session course made a valuable contribution in terms of preparing students for their target courses.

Not all investments in distance instruction, however, have achieved optimum success (Layne & Lepientre, 1996). McClellan (1986) identified barriers encountered and lessons learned, sometimes repeatedly, as educators attempted to match available technology to learning tasks within prevailing socio-economic parameters.

Information Technology and Communication

Layne & Lepeintre (1996) reported that “the experiences that contribute to learning a language, acquiring literacy, or teaching a language are not communicated with equal effect by all media to all audiences” (p.228). All media technologies, i.e. print, audio and video technology, computer assisted instruction (CAI), and computer networks, have specific characteristics in determining their usefulness for each language-learning situation (Chanawangsa, 1992; Boyle, 1994; Layne & Lepeintre, 1996).

Currently, easier access to computers has changed the way in which teachers and students are able to process information, interact with it, and communicate with one

another (Chacon, 1992). Computers allow for a dramatic increase in the speed of replying to student inquiries or requests. Delays can have a damaging effect on student motivation (Moore & Kearsley, 1996).

What makes computers so successful is their potential interactive nature. Critics of distance education programs often say that what is missing from those courses compared to traditional classroom instruction is interactivity between student and teacher. However, the Internet allows for several types of interaction.

The interactive capabilities of the Internet such as synchronous and asynchronous communications, it is argued, may in fact surpass those in a traditional classroom where time constraints mean that the needs of the individual are subsumed to those of the group, and where a bell will ring to end the class. The Internet offers in the interactive arena that which is above and beyond what can be offered in traditional classrooms, even in one boasting instructional technology.

With synchronous communications, students and teachers can be on-line communicating with each other simultaneously. Asynchronous communications, on the other hand, are those that are not instantaneous. Electronic mail is the most popular example of this. Other asynchronous communications are Listservs (member discussion groups) and Newsgroups (discussion groups open to the public). The advantage of these services is that students can participate as they have time. They are

not constrained by a schedule imposed on them by a class, but are free to attend when, where, and for as long as they want. It is the geographic and temporal flexibility and the boundless support resources of Internet technology, among other things, that set it apart from traditional classroom instruction, and make it so attractive to distance education.

As the distance learner is generally a part-time student with a full-time job and other commitments, this saving of time is of great importance, but the independence that this access to information permits is even more important (Boyle, 1994; Singhal, 1997).

Another promising development involving the interactive use of computers is the possibility of using computers to adapt distance education programs to suit learners' cognitive styles and thereby reduce "drop out" rates (Lange, 1986). The issues identified and discussed by Flowerdew (1986) and Oxford et al. (1993) have been addressed by Sadler-Smith (1993), who described a program in which a computer identifies a learner's cognitive style and then acts as an "intelligent tutoring system" and presents information to that learner in the appropriate style. If the learner does not have access to a computer, different sets of instructional materials for a particular course can be prepared for different cognitive styles.

Communication

Information technology allows learners to communicate rapidly with teachers and fellow students. It also promises to revolutionise distance learning, which has so far had a limited impact on English as a Foreign/Second Language. This limited impact is due in large part to the doubts that educators have had about students' ability to learn a language when they might be quite isolated (Floyd, 1993; Wariner-Burke, 1990).

Williams & Sharma (1988) wondered whether "language acquisition at a distance is not a contradiction in terms" (p.127). These concerns have centred on the problem of how the isolated student can learn to speak a language rather than learn to read it or write it. Additionally, they have persisted despite the use of the telephone in teaching and the exchange of audiocassettes between teacher and student. Those who are skeptical of this mode of instruction will, however, have difficulty in denying the legitimacy of distance learning language courses that employ tele-conferencing or video-conferencing (Lange, 1986; Whiting, 1987).

These technologies not only allow learners to speak to teachers, but they also alter our understanding of the meaning of distance (Evans, 1989; Moore, 1983). As mentioned in the previous discussion of distance education, Moore (1983) introduced the concept of "transactional distance" to describe the distance that exists between the teacher and the learner in any educational program, whether the learner is on-campus

or off-campus. “Transactional distance” consists of “dialogue”, which refers to how well the teacher and the learner can respond to each other, and “structure”, which is the responsiveness of an educational program to a learner’s needs. Hence, a student who attends a conventional university but who has few opportunities to speak to university teachers and has little or no influence on the content or direction of the courses s/he attends, could well be at a greater transactional distance from the teachers and the course than a distance learner who has regular contact with a tutor by mail, telephone, facsimile, or E-mail and who is being urged by that tutor to engage in professional “dialogue” (Richards, 1991).

In transactional courses, the learner may wait weeks or months for a reply to a letter, and s/he may follow a course that remains unchanged for many years and that perhaps has little relevance to his or her needs (Young et al., 1991). By contrast, with current advanced technology, English as a Second/Foreign Language distance learners can have various means to maintain contact with their instructor and fellow learners, as well as voice their opinion as to the content and or direction of their course. This is possible through E-mail, links to their teachers, and computer conferencing links to one another (Pincas, 1993). For example, English as a Foreign Language learners in Singapore communicate with their peers in Montreal by telephone, facsimile, and E-mail (Soh & Soon, 1991), and high school and university students scattered across the

United States are linked by satellite television for language learning purposes

(Kataoka, 1987; Oxford et al., 1993).

Information technology, therefore, can significantly reduce the transactional distance by giving learners access to all the information they require and by enabling them to communicate rapidly, through a variety of media, with teachers and with fellow learners. In addition, it reinforces the existing advantages of distance learning by allowing learners to study in a very flexible manner, in the appropriate place, at a speed that suits them, and at a lower opportunity cost, and it satisfies the requirements of many adult learners who need further education and training but who do not wish to have their professional or family lives disrupted by full-time study.

A Comparison of Distance Education and Traditional Teaching Methods for Language Instruction

Drawbacks to Traditional Teaching

Using the Internet for foreign language instruction at a distance will only be useful if it truly has something to contribute to traditional teaching methods or if it can take away some of the drawbacks of traditional teaching. Often English as a Second/Foreign Language teachers have complaints about textbooks. They are often outdated, boring, incomplete and have an artificial style. Exercises are often irrelevant and are not proficiency-oriented. Many textbooks still focus on traditional grammar

instruction without offering any relationship to everyday communication for which a language is devised and that should be the primary focus of any course material.

Sometimes the readings in the textbooks are too hard or sometimes too easy, or the pictures are too old and the material used is not authentic and terribly outdated.

Moreover, it is not common to rely exclusively on a textbook for exercises and other materials (Godwin-Jones, 1998).

The Internet can help solve many of these problems. The World Wide Web abounds in authentic material. It provides teachers with an inexhaustible source of resources they can use in their classes. In this way, technology can be used “to supplement what we do in the classroom and to help in doing what we can’t do very well now (share multimedia, collaborate long distance, make authentic materials comprehensible)”(Godwin-Jones, 1998, p.6).

Comparative research

Computer-mediated communication should have obvious benefits or a surplus value over traditional teaching methods; otherwise it would not contribute anything to the learning process of students. Many claims have been made with respect to the expected results of Computer-Mediated Communication and even as far back as the late 1970s social scientists asserted that it would have dramatic impacts on various communication processes (Hiltz & Turoff, 1978). Others claimed that electronic

communication would provide more writing practice (DiMatteo, 1991), encouraged co-operation between students (Barker & Kemp, 1990), and facilitated peer editing (Moran, 1991). Another claim often heard among teachers is that Computer-Mediated Communication has a strong equalising effect. Face-to-face discussions are relatively unbalanced, with one or two participants dominating the others, whereas computer-mediated communication tends to facilitate more balanced participation (Sproull & Kiesler, 1991). In addition, people who are “at the bottom of the totem pole ... benefit most from this increased equality”(Warschauer, 1996, p.2). For instance, women participate just as often as men in electronic discussions compared to only one-fifth as often in face-to-face discussions (McGuire et.al., 1987).

However, computer-mediated foreign language communication and especially the use of the Internet for foreign language instruction are still relatively new fields and many claims have not or, only partly, been backed up by hard evidence. Nevertheless, research that has been conducted so far suggests that Computer-Mediated communication does have benefits over traditional teaching methods. To illustrate this point, Warschauer (1996) compared face-to-face and electronic discussion in the second language classroom to determine if second language students participate more equally in electronic discussions than in face-to-face discussions. His results suggest that there is more equal participation in electronic discussions, and that the language

used in the electronic discussions was both more formal and more complex. His study supports the claim that computer mediated communication has clear benefits in the foreign language context:

Electronic discussion may create opportunities for more equal participation in the classroom. Furthermore, this can apparently be achieved without disadvantaging more verbal students. At the same time, the more complex and formal language in the electronic discussions was potentially beneficial to all the students, since it may assist them in acquiring more sophisticated communicative skills (Warschauer, p.12, 1996).

More and more evidence seems to support the use of new technologies in the foreign language classroom. However, many claims, no matter how plausible or obvious, still need to be backed up by hard, empirical evidence. Thus there is still a lot of research to be done in this new field to find evidence that will help teachers to make informed decisions about how and when to use these emerging new technologies.

In the following section, recommendations for the development of on-line second language instruction will be provided.

Principles of Learning and Teaching a Second/Foreign Language

In the following section, principles of second language learning from which the development of online second language instruction can be based will be briefly explained. Based on how it relates to learners, each principle is categorised under three main domains: cognitive, affective, and linguistic. Brown (1994b) claimed that these twelve principles “comprise some of the major foundation stones for teaching practice” and they can act for teachers “as a major theoretical insight on which teaching techniques and lessons and curricula can be based” (p.30). In addition, at the end of each principle, pedagogical implications will be given. Many of these suggestions are based on Wat-Aksorn’s study (2001).

Cognitive Principles. This group of principles includes those that relate to learners’ mental and intellectual functions. There are five principles under this category: automaticity, meaningful learning, anticipation of reward, intrinsic motivation, and strategic investment (Brown, 1994b).

Table 14. Cognitive Principles

<p><u>The Principle of Automaticity:</u> Efficient second language learning involves a timely movement of the control of a few language forms into the automatic processing of a relatively unlimited number of language forms.</p> <p>Over-analysing language, thinking too much about its forms, and consciously lingering on rules of language all tend to impede this graduation to automaticity (McLaughlin, 1990 c).</p>	<p><u>Pedagogical Implications:</u> Grammatical explanations and formal aspects of language should not be over-emphasised because it may block students from achieving a more automatic and fluent grasp of the language.</p> <p>Lessons should focus on the use of language for genuine purposes. Students will gain more language competence in the long run if the functional purposes of language are the focal point.</p> <p>Teachers should be patient in helping students to achieve fluency because automaticity cannot be gained in a short time.</p>
<p><u>The Principle of Meaningful Learning:</u> It is generally agreed upon that meaningful learning will lead toward better long-term retention than rote learning (Ausubel, 1963).</p>	<p><u>Pedagogical Implications:</u> Distance education should capitalise on the power of meaningful learning by appealing to students' interests, academic goals, and career goals.</p> <p>Whenever a new topic or concept is introduced, teachers or the distance education materials should attempt to anchor it in students' existing knowledge and background so that it gets associated with something students already know.</p> <p>Distance education courses should avoid the pitfalls of rote learning, some of which are:</p> <ul style="list-style-type: none"> ● too much grammar explanation ● too many abstract principles and theories ● too much drilling and/or memorisation ● activities whose purposes are not clear ● activities that do not contribute to accomplishing the goals of the

	lesson or unit or course
<p><u>The Anticipation of Reward Principle:</u> People are universally driven to act, or “behave”, by the anticipation of some sort of reward-either tangible or intangible, short term or long term-that will ensue as a result of the behaviour (Skinner, 1968).</p>	<p><u>Pedagogical Implications:</u> Teachers should provide an optimal degree of timely praise and encouragement to students as a form of short-term reward.</p> <p>Teachers should encourage students to reward each other with compliments and supportive action.</p> <p>In classes with very low motivation, short-term reminders of progress may help students to perceive their development.</p> <p>Teachers should display enthusiasm and excitement throughout the course/program; students will act accordingly.</p> <p>Teachers/materials should try to get learners to see the long-term rewards in learning English, by pointing out such things as what students can do with English where they live and around the world; the prestige in being able to use English; the academic benefits of knowing English; and jobs that require English.</p>
<p><u>The Intrinsic Motivation Principle:</u> The most powerful rewards are those that are intrinsically motivated within the learner. Because the behaviour stems from needs, wants, or desires within oneself, the behaviour itself is self-rewarding; therefore, no externally administered reward is necessary at all (Maslow, 1970; Deci, 1975).</p>	<p><u>Pedagogical Implications:</u> Teachers are enablers, not “rewarders”. Therefore, when teaching, teachers should focus less on how to administer immediate or tangible rewards and more on how to get students to tune into their potential and to be challenged by self-determined goals.</p> <p>Learners need to develop autonomy, not dependence. Thus, teachers should be careful not to let learners become dependent on teachers’ daily praise and other feedback. Instead, teachers should give praise selectively and judiciously and help students to recognise their own self-satisfaction in having done something well.</p> <p>Teachers should help learners in taking</p>

	<p>charge of their own learning through setting some personal goals and utilising learning strategies.</p> <p>Learner-centred, cooperative teaching is intrinsically motivating. Given this, teachers should give students opportunities to make choices in activities, topics, discussions, and other areas. Teachers should also involve students in various aspects of looking at their needs and self-diagnosing to some degree, of planning lessons and objectives, of deciding which direction a lesson might go in, and of evaluating their learning. These are all aspects that distance education tends to emphasize.</p> <p>Content-based activities and courses are intrinsically motivating. Teachers should focus students on interesting, relevant subject matter content that gets them linguistically involved with meanings and purposes and less so with verbs and prepositions.</p> <p>Tests, with some special attention from the teacher, can also be intrinsically motivating. For example if the students are allowed some input to the test, or if the tests are well thought out, and valid in the students' eyes.</p>
<p><u>The Principle of Strategic Investment:</u> Successful mastery of the second language will depend to a large extent on the learner's own personal "investment" of time, effort, and attention to the second language in the form of an individualized battery of strategies for comprehending and producing the language (Oxford, 1990; Oxford & Ehrman, 1988).</p>	<p><u>Pedagogical Implications:</u></p> <p>Teachers need to understand the importance of recognising and dealing with a wide variety of styles and strategies that learners successfully bring to the learning process.</p> <p>Teachers need to pay attention to each separate individual in the course/program.</p>

Affective Principles. Affective principles include language ego, self-confidence,

risk-taking, and the language-culture connection. These principles are associated with emotional processing (Brown, 1991; 1994a).

Table 15. Affective Principles

<p><u>The Language Ego Principle:</u> As human beings learn to use a second language, they also develop a new mode of thinking, feeling, and acting-like a second identity. The new “language-ego”, intertwined with the second language, can easily create within the learner a sense of fragility or defensiveness, and raise inhibitions (Oller, 1981; Oller & Richards, 1973).</p>	<p><u>Pedagogical Implications:</u> Teachers and learners should overtly display a supportive attitude to students. While some learners may feel uncomfortable/foolish in the new language, teachers should remember that learners are capable people struggling with the acquisition of a very complex set of skills. Teachers’ patience and empathy need to be openly and clearly communicated.</p> <p>On a more mechanical, lesson-planning level, teachers’ choice of techniques and sequences of techniques needs to be cognitively challenging but not overwhelming at an affective level.</p> <p>Teachers should try to consider learners’ language ego status in order to help determine:</p> <ul style="list-style-type: none"> ● Whom to ask to volunteer information ● When to correct students’ errors ● How much to explain something ● How structured and planned an activity should be ● Whom to place in which small groups or pairs ● How “tough” to be with a student <p>English as a Second Language students (in the cultural milieu of an English-speaking country) are likely to experience a moderate identity crisis as they develop a “second self”. Teachers need to help such students to understand that some sense of confusion or even depression may develop as the student experiences a new culture. Teachers’ patience and understanding will also ease the process.</p>
<p><u>The Self Confidence Principle:</u> The eventual success that learners attain</p>	<p><u>Pedagogical Implications:</u> Teachers should give ample assurances to</p>

<p>in a task is at least partially a factor of their belief that they indeed are fully capable of accomplishing a task (Gardner & McIntyre, 1991).</p>	<p>students. It helps a student to have a teacher affirm their belief in the student's ability.</p> <p>Materials and tasks should be sequenced from easier to more difficult. Teachers should be called on to sustain self-confidence where it already exists and to build it where it does not. Activities should therefore logically start with simpler techniques and concepts.</p>
<p><u>The Principle of Risk Taking:</u></p> <p>Successful language learners, in their realistic appraisal of themselves as vulnerable beings yet capable of accomplishing tasks, must be willing to become "risk takers". They must attempt to produce and interpret language that is a bit beyond their absolute certainty (Beebe, 1983).</p>	<p><u>Pedagogical Implications:</u></p> <p>Teachers should create an atmosphere that encourages students to try out language, to venture a response, and not just wait for someone else to volunteer language.</p> <p>Teachers should provide reasonable challenges that are neither too easy nor too hard.</p> <p>Teachers should return students' risky attempts with positive affirmation, praising them for trying while at the same time warmly but firmly attending to their language.</p>
<p><u>The Principle of Language-Culture Connection:</u></p> <p>This principle focuses on the complex interconnection of language and culture and the extent to which learners are affected by the process of acculturation, which will vary with the context and the goals of learning (Clarke, 1976).</p> <p>Whenever a person teaches a language, s/he also teaches a complex system of cultural customs, values, and ways of thinking, feeling, and acting. Especially in "second" language learning contexts, the success with which learners adapt to a new cultural milieu will affect their language acquisition success, and vice versa, in some possibly significant ways (Kachru, 1992; McGroavty & Galvan,</p>	<p><u>Pedagogical Implications:</u></p> <p>Teachers/materials/activities should discuss and examine cross-cultural differences with students, emphasising that no culture is "better" than another, but that cross-cultural understanding is an important facet of learning a language.</p> <p>Courses or programs should include certain activities or materials that illustrate the connection between language and culture.</p> <p>Courses need to teach students the cultural connotations especially of sociolinguistic aspects of language.</p> <p>Teachers/experts should screen teaching</p>

1985).	<p>materials that may be culturally offensive.</p> <p>Teachers should make explicit to students that their own cultural background may cause them to inadvertently misunderstand students' responses.</p> <p>Teachers/materials should help students to be aware of acculturation and its stages.</p> <p>Teachers/materials should stress the importance of the second language as a powerful tool for adjustment in the new culture.</p> <p>Teachers should be especially sensitive to any students who appear to be depressed, or experiencing difficulties and try to assist them.</p>
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Linguistic Principles. Linguistic principles centre on language itself and how learners deal with complex linguistic systems. They are the native language effect, interlanguage, and communicative competence (Brown, 1994b).

Table 16. Linguistic Principles

<p><u>The Principle of the Native Language Effect:</u></p> <p>The native language of learners will be a highly significant system on which learners will rely to predict the target language system. While that native system will exercise both facilitating and interfering effects on the production and</p>	<p><u>Pedagogical Implications:</u></p> <p>Teachers should regard learners' errors as an important window to their underlying system and provide appropriate feedback on them.</p> <p>Ideally, every successful learner will hold</p>
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<p>interfering effects on the production and comprehension of the new language, the interfering effects are likely to be the most salient (Celce-Murcia & Hawkins, 1985).</p>	<p>on to the facilitating effects of the native language and discard the interference. Teachers/materials should help students to understand that not everything about their native language system will cause error.</p> <p>Thinking directly in the target language usually helps to minimize interference errors. Teachers/materials should try to coax students into thinking directly in the second language and avoid resorting to translation as they comprehend and produce language. An occasional translation of a word or phrase here and there can actually be very helpful, especially for adults, but direct use of the second language will help to avoid the first language “crutch” syndrome.</p>
<p><u>The Interlanguage Principle:</u> Second language learners tend to go through a systematic or quasi-systematic developmental process as they progress to full competence in the target language. Successful interlanguage development is partially a factor of utilizing feedback from others (Eckman, 1991).</p>	<p><u>Pedagogical Implications:</u> Teachers should try to distinguish between a student’s systematic interlanguage errors (stemming from the native language or target language) and other errors; the former will probably have a logical source of which the student can become aware. Teachers need to exercise some tolerance for certain interlanguage forms that may arise out of a student’s logical developmental process.</p> <p>Teachers should not make a student feel inferior just because of an interlanguage error; teachers should tactfully point out the logic of the erroneous form.</p> <p>Teachers’ feedback to students should give them the message that mistakes are not “bad”, rather that most mistakes are good indicators of aspects of the new language that are still developing.</p> <p>Teachers should try to get students to self-correct selected errors; the ability to self-correct may indicate readiness to</p>

	<p>regularly use that form correctly.</p> <p>In feedback on students' linguistic output, teachers should make sure to provide ample affective feedback in order to encourage students to speak.</p>
<p><u>The Communicative Competence Principle:</u></p> <p>Given that communicative competence is the goal of a language classroom, instruction needs to point toward all of its components: organisational, pragmatic, strategic, and psychomotor.</p> <p>Communicative goals are best achieved by giving due attention to language use and not just usage, to fluency and not just accuracy, to authentic language and contexts, and to students' eventual need to apply classroom learning to previously unrehearsed contexts in the real world (Bachman, 1990; Hymes, 1972; Yule & Tarone, 1990).</p>	<p><u>Pedagogical Implications:</u></p> <p>Teachers/courses need to remember that grammatical explanations and drills or exercises are just one part of a lesson or curriculum; teachers/courses should pay attention to grammar, but should not neglect the other important components of communicative competence (i.e. functional, sociolinguistic, psychomotor, and strategic).</p> <p>Some of the pragmatic (functional and sociolinguistic) aspects of language are very subtle and therefore very difficult. Teachers/designers should make sure all activities aim to teach such subtlety.</p> <p>In teaching functional and sociolinguistic aspects of language, teachers/designers should not forget that psychomotor skills (such as pronunciation) are an important component of both. Intonation alone conveys a great deal of pragmatic information.</p> <p>Teachers should make sure that students have opportunities to gain some fluency in English without having to be overly wary of little mistakes all the time. Students can work on errors at some other time.</p> <p>Courses should try to keep every activity as authentic as possible by trying to use language that students will actually encounter in the real world and provide genuine techniques for the actual conveyance of information of interest, not just rote techniques.</p>

	Some day students will no longer be in the course; materials and teachers need to prepare them to be independent learners and manipulators of language “out there”.
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Language instruction is different from other subjects because of its social and communicative nature. Learners must learn not only cognitive skills, but also social and communication skills. This adds to the complexity of what is to be taught and how. In the following section, further recommendations for the development of on-line second language instruction will be provided.

Recommendations for On-line Second Language Instruction

Wat-Aksorn (2001) designed a study to identify pedagogical factors and considerations that should be included in the decision-making process for delivery of an English as a Foreign/Second Language program through distance education technologies in Thailand. Though it is specific to Thailand, it is relevant to other contexts as well. Following is a summary of the research results, and a brief discussion on each category of findings.

The Delphi technique was used in her study. Thirteen English as a Foreign/Second Language distance educators comprised the Delphi panel. From panel members' responses to an initial open-ended questionnaire, 90 pedagogical factors were

identified as possible recommendations to educators for inclusion in the decision-making process when designing an English as a Foreign/Second Language program for delivery through distance education technologies in Thailand.

Those items reaching high consensus and moderate consensus produced a list of 55 “Very Important” pedagogical factors. They are summarized below:

Curriculum/Syllabus

1. In designing an English as a Foreign Language program for distance education, it is important that the learners’ culture, environment, and economic situations are taken into consideration.
2. The results of needs analyses and feasibility surveys should be used as guidelines to set up English as a Foreign Language programs.
3. The curriculum does not have to be 100% self-directed.

The finding that the English as a Foreign Language curriculum does not need to be 100% self-directed is supported by the literature of distance education that emphasizes that learners vary in their ability to learn by themselves (Candy, 1991). It is important for educators to realize that this range of ability to be self-directed and to exercise “learner autonomy” is the key concept in distance learning. As a result, “distance education materials must be designed to encourage and support self-directed learning, as well as provide the degree of support needed by people at different stages of self-

directedness” (Moore & Kearsley, 1996, p.119). Whenever possible, distance education materials and courses should be designed to involve students in a variety of activities and to help them become more proficient. It must always be taken into account that students vary in their ability to practice self-directed learning, depending on their personality characteristics and previous learning experiences (Candy, 1991; Coldeway & Spencer, 1982).

Materials Preparation

Materials preparation should be selected based upon....

1. how to motivate the students.
2. assumption as to how a foreign language is learned.
3. format of presentation.
4. how to make the material interesting and cost effective.
5. Care should be taken that the materials are topical and interesting as well as stimulating.
6. Materials should be made for skills practice as well as prepare students in terms of critical thinking (i.e. observation, analysis, synthesis, evaluation, interpretation, organization, informed selection, decision making etc.).
7. Materials preparation should be selected based upon course team administration.

There is a relationship in some of these findings to the contention in instructional design for distance education that materials selected for teaching should reflect the diversity of potential learners (Bridwell et al., 1996). A distance education program should incorporate a technology base that is appropriate for the widest range of students within that program's target audience. Furthermore, the selection of instructional media and tools should be influenced by their accessibility to learners (Martin & November, 1997).

Content Presentation

1. Clear and specific directions should be used for all assigned work.
2. In advance, learners should be provided with viewing of listening guides or worksheets (where focus questions/tasks are given) so they have something to work on as they interact with television or radio programs, cassette-tapes or videotapes, or tele-conferencing or the Internet.
3. Time and effort should be spent on teaching the skills and language components which can be practiced when learners are studying by themselves.
4. Colourful and highly interactive visual and aural components should be included in a course to enhance students' learning, particularly for maintaining active student engagement.

5. Listening and speaking strategies should be taught through audiocassettes, videocassettes, or Computer Assisted Language Learning (CALL), radio program, television program, compact disks, or a combination of these media.
6. Listening and speaking skills should be combined in a course.
7. Study skills should be included in reading and writing courses.
8. Opportunities for practice with the language (task-based types) should be incorporated.
9. Since “in-person contact” is missing in distance education, the mode of “presentation-practice-production” often mentioned in the communicative approach to language teaching may need to be adjusted.
10. A variety of presentation techniques should be used to keep learners’ interest.
11. Native speakers of English should provide the “models” for pronunciation on the cassettes.

The literature in distance education has clearly supported the finding that using clear and specific directions for all assigned work is essential. Much of the explanation that an instructor might make in a face-to-face setting needs to be put into the study guide (Holmberg & Bakshi, 1992). Moore and Kearsley (1996) emphasised

the importance of making the study guide as clear as possible because “the study guide is meant to substitute for the normal discussions that occur between an instructor and the student in a classroom or instructor’s office, and the language should reflect this” (p.110).

Bridwell et al. (1996) support the finding that in advance, learners should be provided with viewing of listening guides or worksheets (where focus questions/tasks are given) so they have something to work on as they interact with television or radio programs, cassette-tapes or videotapes, or tele-conferencing or the Internet. They state that specific instructional activities should be directed toward providing learners with the necessary skills, knowledge, and experience in order to prepare learners for the course.

The finding that listening and speaking strategies should be taught through audiocassettes, videocassettes, or Computer Assisted Language Learning (CALL), radio program, television program, compact disks, or a combination of these media is in concurrence with Saettler’s (1990) conclusion that several forms of media should be selectively used. From existing research it is already clear that almost all distance education courses use some form of print, such as study guides, textbooks, or manuals. The broadcast media of radio and television have been used for educational purposes for many years (Schramm, 1977; Zigerell, 1991), and there is ample evidence that

instructional radio and television can be effective (Chung, 1991; Porter, 1990; Egan et al., 1992). Over the past two decades, audio and videocassettes have come to play an increasingly important role as media for distance education (Bates, 1990). Computer-based instruction, which can involve multimedia and/or CD-ROMs, has become more commonly used in recent years. As discussed previously, this new communication technology holds the potential to be especially beneficial in promoting language learning (Cannings & Finkel, 1993).

Galloway (1993) supports the findings of Wat-Aksorn (2001), and defines Communicative Language Teaching (CLT) as “a communicative approach for teachers and teachers-in-training who want to provide opportunities in the classroom for their students to engage in real-life communication in the target language” (p.5). Wherever possible, distance education materials and courses should be designed to involve students in real-life activities and to help them become better at them. It must always be taken into account that students vary in their ability to practice self-directed learning, depending on their personality characteristics and previous learning experiences (Candy, 1991; Coldeway & Spencer, 1982). The challenge is to adapt this communicative approach to fit into the distance-learning mode. According to Moore & Kearsley (1996), this type of communicative interaction could be done through the use of more advanced technologies.

Cultural Factors

1. Cultural differences should be explained to avoid any possible miscommunication.

From existing research it is clear that whenever a person teaches a language, s/he also teaches a complex system of cultural customs, values, and ways of thinking, feeling, and acting. Especially in “second” language learning contexts, the success with which learners adapt a new cultural milieu will affect their language acquisition success, and vice versa, in some possibly significant ways (Kachru, 1992; McGroarty & Galvan, 1985).

Learner Support

1. A student support system should be established to provide students with:
 - library resources
 - training on how to learn language on one’s own and how to use reference materials effectively
 - regional study centres
 - preparation to learn through the distance learning system
 - academic advisors.
2. Consulting on certain problems should be allowed through the use of E-mail, correspondence, tutorial sessions, or workshops.

These findings were advocated by several researchers who emphasized that a

comprehensive system of technical support services should be in place to ensure the effective use of technologies in distance education programming for learners, instructors, and staff (Holmberg, 1989; Brahmawong, 1992; Chanawangsa, 1992).

Moore & Kearsley (1996) concluded that:

Having a means of providing student support if and when it is needed is critical to the success of distance education programs. There are three categories of student support that are especially critical: guidance/counseling, administrative assistance, and interaction with student and instructors/tutors (p.170).

Interactions

Two distance strategies, synchronous teacher communication to students at one site and synchronous teacher-to-student communication, were identified as factors that should be employed to maximize and approximate the personal connection enjoyed in traditional classrooms.

These findings are supported by Moore & Kearsley (1996) who emphasized the importance of all forms of interaction: learner-content interaction, learner-instructor interaction, and learner-learner interaction. The principle of maximizing and approximating the personal connection is advocated by Hackman & Walker (1990)

who emphasize the need to understand the difference of the teaching role between the instructor in distance education and the traditional classroom. The findings are consistent with the need of distance education organizations when designing and organizing courses that ensure that there is each type of interaction suitable to the various teaching tasks in different subject areas at different stages of development (Hackman & Walker, 1990).

Educators

Issues related to distance English as a Foreign/Second Language educators that may affect the program success are:

1. educators' sense of responsibility and service-mindedness
2. educators' understanding of distance education
3. educators' attitude towards distance education, and
4. the number of educators and expected workload

Although the findings related to educators in Wat-Aksorn's (2001) study are not as specific as the findings of Dillon & Walsh (1992) on faculty perspectives and evaluation about distance teaching, they appear consistent with the basic thrust of their research:

1. Faculty indicates that distance teaching requires a personalized and empathic rapport with students.
2. Communication skills are critical for distance teachers.

3. Faculty members who teach at a distance are generally positive toward distance education, and their attitudes tend to become more positive with experience.
4. Faculty motivation for teaching at a distance comes from intrinsic (i.e. challenge) rather than extrinsic (i.e. financial rewards) motivation.
5. Faculty believes that distance-teaching experience improves their traditional teaching as well (pp.150-151).

In addition, further support can be found in Bridwell et al. (1996), where the role of an instructor in distance education is defined as being somewhat different from resident instruction and as requiring some specialized skills and strategies:

Distance education instructors must plan ahead, be highly organised, and communicate with learners in new ways. They need to be accessible to students, work in teams when appropriate, and play the role of facilitator or mentor in their interactions with learners. Finally, they may have to assume more administrative responsibilities than is true in a residential model (Bridwell et al., 1996, p.147).

Selection of Media and Technology

1. The media and technologies used should allow students flexibility in the ways they can receive the material.
2. Choices of modes of delivery for distance language learning should take

into account learner experience, values, and attitudes.

3. Computer-based technology (CAI, CALL, tele-conferencing, web-based tools, e-mail, and the Internet, etc.) should be used more widely to provide better interaction in teaching language through distance education.
4. Distance language educators should be knowledgeable in selecting appropriate media for different contexts.

The literature has supported the view that the design of programs delivered via distance education should reflect the diversity of potential learners (Briggs et al., 1991; Moore & Kearsley, 1996). The selection and use of instructional media and tools should be based upon their ability to support the predetermined learning goals and objectives of the learning program. The use of electronic communications technologies should be considered as a tool for creating and maintaining learning communities for learners at a distance (Leshin et al., 1992).

Similarly, the findings have much in common with the media selection models developed by several distance educators (Heinich et al., 1985; Lane, 1992; Reiser & Gagne, 1983), which provide a procedure for choosing one medium over another for entire programs or a specific course. The main steps in most media selection models are as follows:

1. Identify the media attributes required by the instructional objectives or

learning activities.

2. Identify the student characteristics that suggest or preclude certain media.
3. Identify characteristics of the learning environment that favour or preclude certain media.
4. Identify economic or organizational factors that may affect the feasibility of certain media (Moore & Kearsley, 1996, p.120).

Evaluation

1. Multiple self-check tests and keys should be incorporated into the curriculum so that students can monitor their progress through each course.
2. Evaluation should be done to measure whether the program achieved the goals and objectives or not.
3. Pre-test and post-test items for learners to assess themselves for content should be included.
4. Self-study with a requirement for students to send in assignments for corrections and suggestions should be included.
5. Using information from teaching methods and media, an evaluation should be made to determine if the program is successful.

These findings are supported by researchers (Bridwell et al., 1996), who concluded that assessment instruments and activities should be congruent with the learning goals and skills required of the learner throughout a distance education program or course. A summary of evaluation principles is presented as follows:

1. Assessment and measurement strategies should be integral parts of the

learning experience-enabling learners to assess their progress, to identify areas for review, and to re-establish immediate learning or lesson goals.

2. Assessment and measurement strategies should accommodate the special needs, characteristics, and situations of the distance learner.
3. Distance learners should be given ample opportunities and accessible methods for providing feedback regarding the instructional design of the distance education program (Bridwell et al., 1996, p.7).

Moore & Kearsley (1996) pointed out that one of the weakest elements in the design and development of many distance education programs is failure to routinely assess the effectiveness of their materials and media. Evaluation should be practiced continuously through the design, development, and implementation cycles to ensure that things work as anticipated and intended.

Integration of the Distance Education and Second Language Acquisition Models:

The Ideal Pairing

Distance education and second language acquisition are changing and diverse environments, as such, it is difficult to develop one definitive theory for either field individually. No single theory can offer a comprehensive explanation about how languages are acquired or how best to deliver distance education. Since learners use different learning strategies, both for acquiring a new language and for becoming successful distance learners, obviously no single explanation can work for all learners.

When attempting to integrate the two fields the challenge to provide a decisive

theory or model is all the much greater. Methodology should not be something fixed, but a dynamic, creative and exploratory process, and thus a principled eclectic approach to theory may be better than limiting oneself to a singular model.

Distance education is very complex. The many interdependent subsystems such as course design, development, production, and delivery; teaching and student support, learning recruitment, and admissions, need to be considered. The distance education environment is in a state of constant flux as new communication technologies are introduced and institutional, national or international goals change focus and thus impact the offerings of delivery systems. Distance education, by its very definition needs to be flexible and adaptive. Its emphasis is on service to clients, cost reductions, and quick response time to changing technology.

The systems approach assists in understanding and addressing all these processes involved in distance education: planning, directing, evaluating and redirecting programs and/or processes.

Saba (2000) states that a systems approach is necessary to describe distance education and define a set of prescriptive principles and rules for its effective use, as well as a set of criteria to determine its effectiveness.

When combining the two fields of distance education and second language acquisition, the holistic view that the Systems Model provides is valuable. It allows

for the clear understanding that anything that happens in one part of the system has an affect on the other parts of the system. If educators are to combine the two fields, they need a picture of the **total** context, even if they are only focusing on distance education of second language acquisition independently.

If the combination of distance education and second language acquisition is to be successful, stakeholders must follow and support educational institution mission goals and the educational needs of students. Again, this requires taking a systems approach, in order to understand that these goals are established within socio-political contexts and constraints. There are four main categories of goals summarised below:

Table 17. Stakeholder Goals

Student Satisfaction Goals	Improve access Individualized instruction Lifelong learning Value-acceptance by students and employers Collaboration
Operating Efficiency and Effectiveness Goals	Delivery Reliable technology Scheduling Flexibility
Learning Goals	Innovative Instruction Faculty Development
Financial Goals	Reduce costs Return on investment

Using a systems method approach provides for an integrated perspective on goals, targets and measures of progress, and encourages management to be mindful of the functional interconnectedness that gains or trade offs in one area may imply to the

overall system. Distance education is about change, and feedback is an important aspect of change.

Traditional distance education, where there was minimal correspondence between teacher and student, and very little, if any between students was fairly passive. New directions in distance education are seeing a shift to a constructivist learning model, which is paralleled in second language acquisition theory. The focus is on more active participation, where students initiate questions, exercise independent thought, and interact with their peers. Learners are encouraged to construct knowledge as they attempt to make sense of their experiences.

This is mirrored in current second language acquisition theory, where the emphasis is on individualized instruction, authenticity in language learning, greater focus on the learner, and development of communicative, as opposed to merely linguistic, competence.

Communicative language teaching views language as a system. It considers language as a system for the expression of meaning, with its primary function being interaction and communication. Viewing language as a system allows for the move away from traditional grammar translation methodology and towards meaningful tasks that involve real communication in authentic contexts. When thinking from a communicative/systems model point of view, learning objectives will reflect the needs

of the learner and will include functional skills as well as linguistic objectives. The language studied is that which is meaningful and relevant to the learner.

Chapter Summary

This chapter examined the integration of distance education and second language instruction and provided principles of second language learning form, which the development of online second language instruction should be based.

The Internet and the rise of computer-mediated communication in particular have reshaped the use of computers for language learning. The shift to global information based economies indicates that students will need to learn how to deal with large amounts of information and have to be able to communicate across languages and cultures. At the same time, the role of the teacher is changing. Teachers are no longer the sole source of information, but are expected to act as facilitators so that students can actively interpret and organise the information they are given, fitting it into prior knowledge (Dole et al., 1991). It is necessary that students become active participants in learning, and explorers and creators of language, rather than passive recipients of it (Brown, 1991).

To this end, the multimedia networked computer provides a range of informational, communicative, and publishing tools that are potentially available to every student. The Internet allows learners of a language to communicate relatively inexpensively with other learners or native speakers. As such, it combines information processing, communication, use of authentic language, and learner autonomy, all of which are of major importance in both current language learning and distance education theories.

The current model in second language teaching focuses on the socio-cognitive view of communicative language learning. It emphasises real language use in a meaningful, authentic context. By using distance education delivered via computers, there is the potential to integrate both the various skills of language learning (listening, speaking, reading, and writing) and technology more fully into language teaching (Warschauer & Healey, 1998).

Information technology can not only reduce transactional distance (the distance that exists between the teacher and the learner in any educational program) by enabling learners to access information and communicate rapidly with teachers and fellow learners, but in addition, it reinforces the existing advantages of distance learning by allowing learners to study in a flexible manner, at an individual pace, and at a lower opportunity cost.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH

Distance education can present educators with an entirely new host of difficulties; not so much because of content, but rather because of the challenge of choosing the most effective methodology to present the material. In utilising distance education technologies, educators are confronted with the dilemma of how to make the most effective personalised instructional delivery experience. An understanding of how English as a Second/Foreign Language has been taught and a knowledge of different kinds of language teaching methods used in the traditional face to face classroom setting are the first steps in helping English as a Foreign/Second Language educators develop teaching strategies that hold the most potential for improving instructional delivery in distance education courses (Doucette, 1994). Therefore, a brief history of second/foreign language teaching has been included in this study. Additionally, a review of major English as a Foreign/Second Language teaching methods were provided.

Salaberry (1996) proposes:

The potential pedagogic effect of the technological tools
used in second language instruction(.....)is inherently

dependent on the particular theoretical or methodological

approach that guides its application” (p.7).

The design and creation of an effective distance education application for English as a Second/Foreign Language therefore, needs to be able to recreate the conditions that are thought beneficial to Second Language Acquisition. There are some broad requirements that a distance education course or program aimed at second language acquisition development needs to fulfil if it is to replicate those conditions in the external linguistic environment which are thought to beneficially contribute to the development of Second Language Acquisition. These are:

1. the need for second language input,
2. for this input to be comprehensible; and
3. for the provision of opportunities for users to negotiate the comprehensibility of the input.

The provision of second language input is a prerequisite for Second Language Acquisition, and distance education technologies can provide a variety of media able to supply such input such as sound, animation, written text, video and graphics. The benefit of multimedia is that it can provide language input that simultaneously conveys the same or similar information through different media.

Indications are that comprehension of input, achieved through learner interaction with any second language input, is useful for Second Language Acquisition and so educators must consider how distance education technologies may be able to replicate the process of negotiation of meaning of input. Chapelle articulates the connection as follows:

These interactional modifications initiated by the learner on input from the computer (*or teacher or fellow learner-added by author*), should yield similar psycholinguistic effects as those in oral face-to-face linguistic exchanges in which they were first investigated (Chapelle 1997, p.27).

Three ways in which distance education may encourage learners to negotiate the meaning of language are:

1. through the provision of learning support resources,
2. by allowing individual control; and
3. through the provision of meaning-focused tasks which guide, support and confirm comprehension.

Distance education needs to provide extra resources that will enable learners to obtain meaning from the input. These might provide the same types of information as

would be available from a native speaker, to clarify meanings of words or grammar.

By supplementing input with a variety of learning support resources, i.e. online access to the instructor and/or fellow learners, on-line dictionaries, and comprehension tasks with corrective feedback, learners may have the necessary tools to be able to make non-comprehensible input comprehensible.

Distance education needs to allow learners to control and determine their use of such features. The place, extent, length and type of learner/computer exchange, together with the choice of support feature, can be determined by learners according to their own pace, needs, and preferred learning style, thus personalising the negotiation. Learners can engage in individualized clarification of meaning by exploiting available multimedia resources, where, when, and if, their own comprehension breaks down.

Instructional Considerations

The Student-Centred Classroom. Current pedagogical theory encourages the student-centred classroom. Especially in language teaching, where the understanding is that communicative proficiency is paramount, the shift from the teacher-centred classroom to a student-centred classroom is a very important one.

Much has been written about this shift. The desire to make language teaching more responsive to learners' needs has been a consistent feature of experimentation in

language teaching since the 1960s (Tudor, 1996, p.1). It grew out of dissatisfaction with traditional language teaching practice, where the teacher decided what exactly the students had to do, when to do it, and how to do it. Individual learners' needs were not taken into consideration. Moreover, the emphasis was on strict grammatical instruction and at best communication played a secondary role. At first, there was of course much resistance to more communicative and learner-centred approaches. There was concern about errors not being corrected immediately and where the necessary input was to come from.

However, in the 1980s research showed, for instance, that making errors is a natural part of the language learning process and constant error correction by the teacher was unnecessary and inhibiting (Harris, 1996, p.257). The communicative approach and learner autonomy became increasingly important in foreign language teaching theories. The ability to convey and understand meaning became more important than knowledge of grammatical rules. In addition, individual differences between learners were taken into consideration. In the student-centred classroom students play an active role in setting goals and choosing materials, methods, and tasks. In other words, learner autonomy stresses the fact that the learner is willing to and capable of taking charge of his or her own learning.

By now, the belief that the student-centred, communicative classroom has many

advantages over the traditional one is firmly established. Using these approaches in English as a Second/Foreign Language teaching have proven to be motivating and enable students to cope better with the complexity of real language use, whereas traditional methods seem to do the exact opposite (Harris, 1996, p.258). Although many teachers have undoubtedly incorporated these new approaches in their teaching, the situation in many classrooms has often not changed very much, especially in a number of Western European and Asian countries, such as Belgium, Germany, Netherlands, Korea, and Japan. The teacher-centred classroom is still not a thing of the past. For instance, in 1990 a report was drawn up (Van Els, 1990) in the Netherlands that recognised the discrepancy between the needs of the society with respect to foreign language knowledge and the situation prevalent at that time in Dutch secondary schools. It had become obvious that students who had finished secondary school were inadequately prepared for society's needs. One of the recommendations of the report was to improve foreign language education by introducing the communicative, learner-centred approach in the foreign language classroom (Van Els, 1990, p.54). Since 1990, there have been two major educational reforms and only now are these new theories beginning to be used. Teacher training courses may prepare their students for communicative foreign language education, but students may find the traditional methods still being used by teachers who are set in their ways.

When the Internet is used in an educational context, however, the shift to a student-centred classroom is not optional, but a prerequisite (Frizler, 1995). The students work on projects and bear responsibility over their own work and learning. As such the advent of the Internet in the foreign language classroom supports current pedagogical theories and the shift to the student-centred classroom. If teachers are already used to this, as most distance education instructors should be, they will find that the Internet will complement their style of teaching perfectly.

The Changing Role of Teacher. The shift from teacher-centred classroom to a student-centred one has its bearing on the role of teachers as well. As (Haworth, 1995) points out, teachers are no longer the centre stage protagonists, but are demoted to the position of stagehand in the wings. Teachers have to become coaches who will stimulate their students to learn by themselves. Helping students learn to learn is a necessity in distance education (Meth, 1998). Teachers will have to understand and accept the paradigm where the more students do for themselves, the more they will learn (Berge & Collins, 1995). However, teachers should not consider this new supporting role a demotion, since it can be every bit as demanding as their traditional role (Haworth, 1995).

A result of the change in the traditional classroom hierarchy is a more balanced relationship between teachers and their students. The medium can foster a surprisingly

close relationship between them (Kilian, 1994). The teacher is no longer the person who tells the students what they have to do and how to go about it. He or she helps individual students achieve the most they can and can only do this if the basis of the teacher-student relationship is far more balanced than in the traditional classroom. According to the modern pedagogical theories of the student-centred classroom, this will only be beneficial to the students' learning process.

In addition to the recommendations for on-line second language instruction mentioned so far, the following considerations should be carefully studied before attempting to integrate English as a Second/Foreign Language with distance education.

Practical Web Strategies

What follows is a collection of important web-design strategies, media selection criteria, and evaluation guidelines for online instructional materials advocated by experts in the field of online design and training.

Guay's Design Goals

Guay (1995) outlines the following general design goals:

Table 18. Guay's Design Goals

Content	The content must be directed towards a specific audience and have a specific communications goal.
Layout	The layout must be aesthetically pleasing, balanced, and uncluttered.

Physical Bandwidth	Physical bandwidth must be minimized as to ensure quick response times.
Cognitive Bandwidth	Cognitive bandwidth must be minimized to ensure the user easily and accurately grasps the message. Guay defines cognitive bandwidth as “the time and mental effort it takes for the senses to take in, and the mind to process information.”
Navigation	Navigation must be intuitive, clear, and flow well.
Interactivity	The highest possible level of interactivity must be provided.

Winn’s Ideas for Learning in the Distance Education Environment

Winn (1997) suggests the following ideas for the development of online learning materials, based on the constructivist premise that knowledge is constructed by learners, knowledge is constructed in a context, and knowledge is constructed socially:

Table 19. Winn’s Ideas for Learning in Hyperspace

Provide guidance to help students construct knowledge from information	<p>Provide specific guidelines about how to study on-line material, about what to look for at various websites, about how to apply and assess newly acquired knowledge.</p> <p>Provide useful paths through information by limiting the number of links students can follow from any one place.</p> <p>Design pages so that student attention is directed to what is important and away from what is of secondary importance or merely embellishment.</p> <p>Use the entire repertoire of navigation aids so that students always know where they are, where they have been, and how to get to where they need to go.</p>
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	<p>Embed guidance in organization/layout of web pages. “Visual and audio cuing can direct attention, highlight information, and suggest structure and sequence” (Project 25, 1997).</p> <p>Build interactive displays that provide feedback to students’ actions. “Use strategies that require students to interact with material in multiple ways, such as interactive Web pages or tutorials (Project 25, 1997).</p>
Provide opportunities for “situated learning”	<p>If possible, use real-time simulations of situations relevant to the discipline (Project 25, 1997).</p> <p>Use role-playing strategies.</p> <p>Use Internet resources to put students in contact with professionals in the discipline.</p>
Provide support for social learning	<p>Provide easy and quick access to faculty and other students through email and chat facilities, ultimately establishing a virtual community where students can freely exchange ideas.</p> <p>Use Internet forums, discussions, or other methods to promote a virtual community for students to interact with students, teachers, and other members of community (Project 25, 1997).</p>
Provide library resources	<p>Winn (1997) also recommends providing easy electronic access to other resources such as libraries, databases and laboratories.</p>

Jones and Farquhar’s Web-Design Pedagogy

Jones and Farquhar (1997) propose the following style guidelines to increase the effectiveness of Web-based instruction:

Table 20. Jones and Farquhar’s Web-Design Pedagogy

Provide multiple versions of your material	Offer a text only version, a version with smaller graphics, and a version that contains larger graphics and multimedia.
Offer help in configuring your learners' browsers	Provide users with information on which "plug-ins" they need to take full advantage of the materials being presented e.g., RealAudio, Shockwave, Java, Acrobat Reader, etc. Include links to the sites where the plug-ins can be downloaded.
Keep pages short	Long pages take too long to download. Research on the Web also suggests that users do not like to scroll (Nielsen, 1996, as cited In Jones & Farquhar, 1997, 243).
Link to other pages, not to other points on the same page	"Jumping within the same page adds to the confusion of the learner" (p.243). This is especially apparent on very long pages, where a jump to another section within a page may appear to be a jump to another page.
Select and space your links carefully	Place related links at the bottom of the page or at the end of the text, where readers expect them. Links placed within the passage can offer learners further information, clarification, or exploration opportunities. If too many links are offered, confusion may result. "Too much emphasis is no emphasis".
Label links appropriately	Do not label links cryptically.
Keep important information at the top of the page	When learners come to a page, they immediately scan for interesting and important information. Good web-design gives learners the information they want/need right away.
Clearly identify selectable areas using the royal blue convention for "hot" items and selections made using the standard purple convention	Jones and Farquhar recommend following the standard.

Berge's Guiding Principles in Web Based Instructional (WBI) Design

Berge (1998) describes eight principles under pedagogical, technical/support and

social categories that have been created to assist designers in the development of web-based learning environments:

Table 21. Berge's Guiding Principles in WBI Design

Identify goals	Identify and describe the list of goal (s) of each learning activity and the level of interaction (both social and instructional) that is required.
Define the levels of teacher-control, student control, and group-control	The level of control determines whether the framework is based on positivism (i.e. training by objectives), behaviourism (i.e. focus on behavioural changes), or constructivism (i.e. active participation and reflection by the learner). Student-centred learning methods are more problem-solving and inquiry-based, while in teacher-centred learning, the primary goal is to transmit the expert knowledge of the instructor to the novice students.
Limit levels of quantity	The challenge for the designer is to select media that helps match the quantity of the content with the required and desired quality and level of interaction. Quantity should be inversely related to the level of synchronous communication that exists within the web-based learning environment.
Text and graphics are presently the easiest form of multimedia to use	Berge warns that although online environments support multiple forms of full-motion video and streaming audio, text and graphics are presently the most user-friendly. If such forms of media are required, a CD-ROM, videotape or audiocassette can be used in conjunction with the Web-based instruction to avoid bandwidth problems.
Use the principle of technological minimalism	Berge emphasizes the importance of designing an online environment suitable for the learner's technical abilities. It is important for the designer to make the technology "seamless", in order for the learner to remain totally focused on the learning experience.
Provide adequate technical support and training for both student and instructor	Designers need to consider the technical skills of both the learner and the instructor. "The more technology used, the greater the need for technology support" (p.75).
Create a learning environment that fosters co-operation and trust among students and the	To promote learning, an online environment should be friendly and social.

instructor	
Synchronous communication is more costly than asynchronous	Berge states that both modes of communication are important web-based tools in teaching and learning. However, synchronous communication is more expensive in terms of equipment costs and infrastructure required, and in terms of inconvenience regarding time and space requirements for the learner and instructor. This needs to be balanced with “the richness that is sometimes experienced in face-to-face interactions” (p.75).

Daunt’s Choosing the Right Technology Strategies.

Daunt (1998, 168-169) outlines the following strategies for choosing the right technology:

Table 22. Daunt’s Choosing the Right Technology Strategies

Establish your need-then choose the technology	Daunt maintains that “a common mistake is to start with the technology and then find a use for it.” She advises that “your needs should always indicate which (if any) technology should be used.”
Look at the range of technologies	Daunt advises that “no single technology is superior to all others”. She suggests that you ask yourself: “How available/accessible is this technology? Will the students be comfortable using it?”
Include the users in your selection process	Daunt warns us that in some cases, resistance to new technology has been so high that the implementation of the technology has failed completely. Technologists see technology with a different set of values to educators.
Consider the needs of your learners	Teachers and learners need to be comfortable with a new technology.

Paquette-Frenette and Larocque’s Collective Approach

When trying to implement a “collective approach” in distance education, Paquette-

Frenette & Larocque (1995, 164) advise selecting technologies that are:

1. easiest to use and that build on acquired competencies;
2. most interactive in real time;
3. the least expensive to operate, install, buy and maintain;
4. easiest to connect in networks for group work; and
5. easiest to connect with existing installations (at the local, regional, provincial and national levels).

Bates' ACTIONS Model

Bates (1995) provides the “ACTIONS Model” criteria for selecting technology to be used in distance and online education (Bartolic-Zlomislic, 2000):

Table 23. Bates' ACTIONS Model

Access	How accessible is the technology for learners and teachers?
Costs	What is the overall cost of implementation? What is the cost of not using other possible technologies?
Teaching and Learning	How are teaching and learning methods limited and enhanced by this technology?
Interactivity and User-friendliness	What kind of interaction does this technology support? Is it easy to learn and use?
Organizational Issues	What are the barriers to be removed, before this technology can be used successfully? What changes in the organisation need to be made?
Novelty	How new is this technology for the users? Is it motivational? Has it stimulated funding?
Speed	How quickly can course material be prepared, changed, or updated using this technology?

Ann Baron's Design Considerations

Barron (1998) presents the following guidelines derived from the wealth of literature on the design of computer-based training and multimedia instruction and based on style recommendations for Web pages.

Table 24. Ann Baron's Design Considerations

Conduct a thorough media analysis	Web Based Training is feasible for delivery of a project if: Information needs to be updated constantly; The target audience is widely dispersed and there is no other efficient and effective distribution method; The content does not rely heavily on audio or video which can slow down on the web; and The students would benefit with email and chat communication with the instructor rather than rely solely on self-study.
Place course objectives first and foremost	Barron advises that "If we do not focus on the content, the strategies, and the learning experiences of the student, we will lose the effectiveness of the program, regardless of the medium or the authoring environment".
Analyze the platforms of the target audience	This is vital, as the users may be scattered throughout the world, and using a wide variety of network, hardware, and software options. The speed of access might range from a 28.8 modem to a 100 Mbps network.
Make Interactions meaningful	Don't only require physical interactions, but one's that engage the student's mind.
Consider visual guidelines	Designers should assess a graphic's pertinence to the overall message, before incorporating it into a page design.
Differentiate among the hyperlinks	To prevent students from wandering the Web to visit other sites, and lose focus, it should be easy for students to distinguish between links that branch off to other pages on the course website, and links that lead to external sites.
Minimize the use of audio, video and plug-ins.	Users should be informed of the file size and download time. Users may have difficulty downloading and installing plug-ins, and thus it is wise to consider other alternatives prior to using them.

<p style="text-align: center;">Encourage collaboration</p>	<p>A major advantage of the Web, Barron contends, is that it is relatively easy to incorporate and encourage asynchronous (e-mail, CMC, etc.) or synchronous (chat, videoconferencing etc.) communication between the instructor and students.</p>
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Integrating Web Design Models for Distance Education and Second Language

Instruction

From the above guidelines, it appears that there is a consensus that the most important factors in web design revolve around the concept of “usability” which requires: user friendliness, technological minimalism, plug-ins help, interactivity, appropriate linking, appealing layout that is clutter-free, suitable content, fast speed access, and navigation ease.

The experts in online design reinforce the key elements of the integrated model for distance education and second language education suggested earlier in this study. Their focus is on an interactive, student centred leaning environment that provides enough support that virtual communities for students to interact with students, teachers, and other members of the community can be established, and where the learner is not distracted by the technology, but remains totally focused on the learning experience.

When assessing how the above web design models should be integrated, it is important to keep Ann Baron’s (1998) warning in mind. “If we do not focus on the

content, the strategies, and the learning experiences of the student, we will lose the effectiveness of the program, regardless of the medium or the authoring environment”.

Conclusion

Regardless of drawbacks of the educational use of distance education technologies such as the computer and Internet, it still seems a valuable asset to the learning experience of students. However the technology itself can do little. It will take a lot of effort from teachers and a change in attitude to realise the potential. Every change in the status quo encounters resistance, but the possibilities of this new medium are enormous and they are inevitably going to affect learning and teaching.

Even if the change falls short of the revolution which some zealots are prophesying, there can be no doubt that it will be of a sufficient scale to impose radical transformation of the process of teaching and learning (Haworth, 1995).

The findings of this study can be included in the decision-making process for delivery of an online English as a Foreign/Second Language program. They form a research basis for the development of criteria and standards for English as a Foreign/Second Language distance education programs. This study can be used as a beginning point for establishing guidelines to set up an online English as a Foreign/Second Language program, and as a set of teaching principles on which to build a program through the use of distance education technology. This study is the

first step in helping educational institutions create a supportive institutional culture in which the possibilities of teaching English as a Second/Foreign Language through distance education can flourish.

Recommendations for Future Research

While the results of this study offer a list of pedagogical factors and considerations that should be included in the delivery of an English as a Second/Foreign Language program through distance education technologies, they also point to areas where more research is necessary. It is recommended, therefore, that the following research endeavours be undertaken as a result of the insights generated from this study:

Future studies should apply these guidelines in a variety of educational institutions. Public and private institutions or organisations that plan to offer, or currently do offer English as a Foreign/Second Language distance education programs that follow these guidelines should be quantitatively studied.

The results of this study produced a list of broad pedagogical factors and considerations that should be used as principles in developing an English as a Foreign/Second Language distance education program. As such, a study with a more specific context, and more narrowly defined research questions should be conducted in order to generate more specific guidelines for teaching different English as a Foreign/Second Language language skills (listening, speaking, reading, and writing)

via distance education.

Determining if there is any significant difference among distance education technologies in teaching English as a Foreign Language as opposed to English as a Second Language would also likely be a worthwhile study to perform.

Since the use of native language and target language were not addressed in this study, research to find out whether there is any significant difference between using native language along with English or using only English in delivery of English as a Second/Foreign Language instructions through distance education should be conducted.

Research should be conducted to determine what kinds of learners best learn what aspects of language skills by which media and in which learning setting.

Further research should be conducted to find out how cultural norms and background experience can influence teaching strategies among faculty, and learner's attitudes toward English as a Foreign/Second Language taught through distance education technologies.

Summary

Increasing demands for English as a Foreign/Second Language instruction, coupled with advances in communication technology, have created a potential for distance education to offer English as a Second/Foreign Language programs. With many forms

of media currently being used and with more advanced communication technology gaining popularity, there is still a question in some minds as to whether English as a Foreign/Second Language can be taught effectively when teachers and students are not in face-to-face contact in a traditional classroom. Principles for establishing an effective English as a Second/Foreign Language distance education program are the basis of effective program development. The results of this study, which generated a list of pedagogical factors and considerations for English as a Foreign/Second Language distance education programs via distance education technologies, should provide guidelines for educators, designers, and administrators who plan to develop such a program.

CHAPTER VI

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APPENDIX A-STANDARDS FOR FOREIGN LANGUAGE

LEARNING

COMMUNICATION

Communicate in Languages Other than English

Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.

Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.

Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics

CULTURES

Gain Knowledge and Understanding of Other Cultures

Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.

Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.

CONNECTIONS

Connect with Other Disciplines and Acquire Information

Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language

Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.

COMPARISON

Develop Insight into the Nature of Language and Culture

Standard 4.1: Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.

Standard 4.2: Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

COMMUNITIES

Participate in Multilingual Communities at Home and Around the World

Standard 5.1: Students use the language both within and beyond the school setting.

Standard 5.2: Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

Taken from National Standards in Foreign Language Learning Project (1996)