

**FINDING A VOICE IN THE DIGITAL CLASSROOM:
THE EFFECTS OF ASYNCHRONOUS DISCUSSION ON LANGUAGE
ACQUISITION AND COMMUNICATION
APPREHENSION AMONG SECONDARY ESOL STUDENTS IN SOUTH TEXAS**

A Dissertation

By

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Submitted to the Dean of Graduate Studies and Research

Texas A&M University-Corpus Christi

In partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

May, 2010

Major Subject: Educational Leadership—Higher Education

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IN
SOUTH TEXAS

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ABSTRACT

FINDING A VOICE IN THE DIGITAL CLASSROOM:
THE EFFECTS OF ASYNCHRONOUS DISCUSSION ON LANGUAGE
ACQUISITION AND COMMUNICATION APPREHENSION AMONG SECONDARY
ESOL STUDENTS IN SOUTH TEXAS

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Students who are classified as ESOL at the secondary level may face various factors that prevent participation in class thus inhibiting second language acquisition. The purpose of the study was to determine if asynchronous discussions (ASD) affected the second language acquisition of secondary ESOL students. The researcher examined the effects of ASD in an online ESOL language community (*All English All the Time*) on improving writing skills and communication apprehension of a non-probability sample of English Language Learners at the secondary level. The results of the study confirm the fact that ASD may encourage informal communication and that further study on various forms of computer assisted language learning may prove useful to the successful acquisition of a second language.

ACKNOWLEDGEMENTS

I would like to acknowledge all the people who have made this dissertation a possibility. First, and most importantly, I must thank all the ESL students who have taught me how to be a better teacher and who have inspired me by their perseverance despite great obstacles. I would also like to thank my chair, Dr. Sherritt, for her support during the arduous process of writing the dissertation, and I would also like to thank all the members of my dissertation committee, Dr. Kouzekanani, Dr. Lucido and Dr. Griffith, for their recommendations and encouragement. I acknowledge and greatly appreciate Dr. Kouzekanani for his patience and countless hours of help during the final phase of the study.

I would be remiss if I didn't mention those family members whose help was crucial through the entire dissertation process. I could not have completed this endeavor without the help of my mother-in-law, Delma, who took care of my precious children, Thomas and Jessica, while I spent countless hours in the library and in class. I could not have devoted myself to any serious study if I did not have such a wonderful person to care for my children. I must also acknowledge my husband, William, whose insight and support kept me on track when I thought I could not complete the process. My husband proved to be a true touchstone whose guidance helped me to reach my goal when I felt myself at an impasse.

Finally I want to acknowledge my parents, Thomas and Yvonne Mettey, who inspired and influenced me to "study to show [myself] approved" (2 Timothy 2:15). Without them, I would never have attended college much less obtain a Doctorate in Education.

They instilled in me and my four dear brothers, Gary, David, Richard and Daniel, the value of an education and the importance of working towards a goal, despite the many obstacles that life presents.

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CHAPTER 1

INTRODUCTION

Background

A dilemma that educators often face involves satisfying two objectives that may, at times, be at odds: raising standards and ensuring equity in instruction for all (Jia, Eslami, & Burlbaw, 2006). The former objective gets media attention while the latter objective is often overlooked. In the rush to reform an ailing educational system, many students may be left behind. Simply raising standards without a legitimate plan for change produces frustration and eventual failure for those who do not come from an academically enriched background (Jia et al., 2006).

Realizing the growing divide between the educational “have” and “have not,” the Texas Higher Education Coordinating Board developed the initiative “Closing the Gaps by 2015.” This initiative focuses on closing the gap between those who receive a higher education and those who do not (Local education, 2004). In large part this goal could be accomplished by encouraging the continuing education of those who may never consider education beyond high school. Despite common misconceptions, technology could possibly bridge the gap between those who continue their education and those who do not.

Opposition to the use of technology may come from the misguided notion that technology is too expensive and difficult for the average person to use. Although this might have been true at one time, it is no longer the case. Distance learning has proven to be a highly effective and affordable method to help educate those who, due to various barriers, could not acquire higher education through traditional venues (U.S Department

of Commerce, 2004). Furthermore, distance learning that incorporates videoconferencing can educate ESOL (English for Speakers of Other Languages) students who live in remote areas of the country and are not able to participate in face-to-face instruction. Specifically, this method of instruction may help close the educational gap for those people in South Texas whose first language is not English.

Any change in the educational system, no matter how beneficial, will fail if the conditions under which it is implemented are not optimal. For a new program to be accepted by educators and for this new program to flourish, an urgent need must be present (Kotter, 1996). The urgency for providing much needed, improved ESOL programs in South Texas has been growing over the past decade. An influx of immigrants to Texas and other southern states has created a difficult situation for the educational systems in these areas. One study indicated a 38% increase in ESL (English as a Second Language) course offerings during the years 1991 to 1998 (Kuo, 2000). This fact is not surprising when one considers that 1,190,900 immigrants entered the United States in fiscal year 1996 (Suárez-Orozco & Pérez, 2002). Of these immigrants, 26.5% were Mexican immigrants (Suárez-Orozco & Pérez, 2002). These immigrants created a staggering impact on the educational systems of Texas, New Mexico, Arizona, and California. Of the total growth in Texas alone during the 1990s, 50.3 percent was due to net migration (Murdoch, Steve H., White, Steve, Hoque, Md. Nazrul, Pecote, Beverly, You, Xiuhong, Balkan, Jennifer 2002).

The present situation for ESOL in the Educational Service Center (ESC) 2, which serves 42 Independent School Districts in South Texas, reveals evidence of failure by the educational system to meet the demands of the growing ESOL population. The ESC 2

has a total population of 5,248 ESOL students. The pass rate for ESOL in 2009 on the TAKS test (Texas Assessment of Knowledge and Skills), which is a graduation requirement, was only 13% (Campus AEIS Report Card, 2009). This data plainly reveals a need for change.

To make the situation even worse, immigration (both from between states and from other countries) does not look like it will abate any time soon. The projected growth of net migration to Texas by 2040 is 66.7% under one scenario and 84.2% under another (Murdoch et. al., 2002). The projection indicates that the demand for ESOL instruction will continue to grow. The problem of how to meet the needs in these areas, with a current budget crunch in all areas of education, seems quite perplexing (Murdoch et al., 2002). A viable answer to this dilemma does exist, and it may be found in the world of technology.

Distance learning could be the solution to the educational problem created by the influx in ESOL learners; however, certain misconceptions by the general public need to be addressed. Many people, including educators, think distance learning would be detrimental to ESOL students who usually need face-to-face interaction to understand language. It is true that discussion is a very valuable method of instruction for ESOL students because nonverbal cues help to reinforce the verbal message (Bowman, 2001). Both ESOL instructors and ESOL students often use their hands to demonstrate the meaning of a word. Also, a simple shake of the head or an encouraging smile by the instructor goes far in encouraging participation. A hybrid class, which is a combination of both the traditional class and the online class, would give the ESOL student the best of both worlds. Such an educational setting provides for both discussions that allows for

nonverbal messages and discussions that allows all students the chance to express themselves without fear of errors.

Unfortunately, many individuals in remote areas cannot attend conventional classes even for a hybrid situation. A possible answer is to incorporate videoconferencing with distance learning. Once this provision is made, the ESOL students from remote areas will have all the advantages of a face-to-face class, plus the advantages of distance learning. These students can have on-line discussion similar to those they would naturally have in a face-to-face class.

Regardless of the class set up, completely virtual with the use of web cameras or a hybrid situation, the use of on-line asynchronous discussion provides numerous benefits for the ESOL student. As many researchers have noted, asynchronous discussions (which is discussion that does not occur in real time), allows students more time for reflection and more chances for participation than allowed for in conventional classes (Black, 2005; Bowman, 2001; Carey, 2000; Chen, 2005; Teo & Webster; Wang, 2007; Wu & Hiltz, 2003). On-line discussions actually eliminate the competitive atmosphere that sometimes hinders productive classroom discussion (Bowman, 2001). Students no longer worry about losing points due to a lack of participation. Everyone has an opportunity to voice his/her thoughts.

In addition to the advantages already mentioned, a distance learning ESOL program helps students in other valuable ways. Such programs help students in the recognition of phonetic groupings and helps develop rhythm (Antonella, 2004). It also allows for the student to understand different dialects (Antonella, 2004). For example, an ESOL student listening to a person with a Texan dialect would hear words like “gonna”

and “fishin” but would see the words “going” and “fishing” on his/her computer screen. Another side benefit with distance learning is the easy access to on-line sources such as dictionaries, newspapers, magazines, and books. An example of an on-line reference is a web magazine called EX CHANGE. EX CHANGE has four sections: World Cultures, Current News and Events, Stories, and Learning Resources (Antonella, 2004). The information found in this magazine, as well as all the other valuable information easily accessed on the web, can prove to be quite valuable in the self-directed learning of adult ESOL students.

Although the advantages are many, the roadblocks, if not addressed, can permanently derail any distance learning program. Techno phobia and finance, for example, have repeatedly proven to be formidable blocks to distance learning (Palmieri, 1997). A change in the negative perception of technology can be overcome when educators realize an urgent need to change their behavior. Educators need to realize that the overwhelming situation of too many ESOL students and too few ESOL instructors and/or facilities (Suárez-Orozco & Pérez, 2002) may be overcome through distance learning. The financial problem stems from a problem of perception. Distance learning can actually be more cost effective than the instruction that occurs in the “brick and mortar” setting. Obviously, distance learning students do not use the same resources that the on-campus students use. Furthermore, the cost to individual students can be circumvented by the use of computer labs in high schools and libraries. All of the roadblocks may be overcome through proper implementation of distance learning.

One of the first steps in starting an ESOL distance learning program would be to foster a climate that encourages the use of technology. Texas already has such an

environment in its community colleges and universities. Actually, Texas' first serious use of distance learning began in 1998 with TACC's (Texas Association of Community Colleges) Virtual College of Texas (VCT). The mission of VCT is to provide all Texans access to distance learning courses that are provided to VCT member colleges ("Legislative priorities," 2004). In addition to VCT, Texas also has STARLINK which is a network composed of all Texas community/technical colleges, one university, and 12 out-of state members. This STARLINK produces and disseminates a variety of videoconferencing programs that allow for staff development ("Legislative priorities," 2004). These two programs characterize a state ready to enter the 21st century world of technology. Presently, all of Texas community colleges are internet connected, and over 80% of distance education courses are at community colleges ("Legislative priorities," 2004). Consequently, VCT enrollment has increased from 230 students per semester in 1998 to 729 students per semester in 2004 ("Legislative priorities," 2004).

The need for more and improved ESOL instruction has been established, and the fact has been established that Texas is ready for distance education, but the question remains whether or not this mode of education will benefit ESOL students. Various reasons exist for the lack of success that many adult ESOL students face. One hindrance to learning English is the class discussion. Class discussions should provide students with an opportunity to practice their communication skills. Unfortunately, class discussion for many ESOL learners at the secondary level and beyond proves to be at best a passive means to experience the language. The ESOL students often appear lazy and unprepared to instructors when in fact they simply feel incapable of participating in class discussions (Vandrik, 2000). Two major reasons that ESOL students avoid

communication concerns social and psychological factors. ESOL students avoid discussion because they might simply be shy or ashamed of the way they sound. Quite often ESOL classes have students from impoverished backgrounds, but at times, as seen in the comparison group for this study, socio economic status does come into play. Some students may actually feel a lack of “entitlement” due to their social status (Vandrik, 2000). Students whose families are from the working class might feel they should defer to those in class with a higher social status. When teachers give points to students who participate (those from the privileged class), they are inadvertently giving credence to the notion of entitlement (Vandrik, 2000). The well-meaning teacher in a desire to encourage participation actually reinforces the notion that those of a lower class should remain silent out of respect to their fellow classmates who are of a higher social status. Fortunately, for the students involved in this study, the instructors were highly trained and, by the researcher’s observation, fair and equitable in dealing with student discussion. Whatever the reason for the silence in class, the apprehension regarding learning a second language results in what the linguist Stephen Krashen calls an “affective filter” that blocks the comprehensible input encountered in the classroom from helping improve language acquisition (Krashen, 1992). Consequently, all aspects of language (speaking, listening, reading and writing) may be affected to some extent. How does one reverse this pattern? The use of asynchronous discussions (ASD) may be the answer. Students have the ability to think through topics, type responses and edit them for proper usage before posting.

Statement of the Problem

Unfortunately, no on-line ESOL classes are offered through the Virtual Colleges of Texas for students who live in South Texas, and very few online ESOL communities exist in this area at either the high school or the college level. The variable of asynchronous discussion threads added to a face-to-face class should be studied for its effectiveness in further developing language skills, specifically writing, and reducing oral communication apprehension of ESOL students.

Theoretical Framework

The theoretical framework for this study was a combination of theories concerning ESOL instruction and Computer Assisted Language Learning (CALL). Specifically the language acquisition hypothesis proposed by Stephen Krashen and the computer assisted language acquisition hypothesis proposed by Carol Chapelle provided a basis to direct the study.

Approaches to second language acquisition are numerous and wide ranging. Stephen Krashen, who is a much noted linguist in the field of ESL instruction, proposes five major hypotheses to language acquisition, whether it is the first language (L1) or the acquisition of a second language (L2). These hypotheses are: Acquisition-Learning Hypothesis, The Natural Order Hypothesis, The Monitor Hypothesis, The Input (Comprehension Hypothesis) and The Affective Filter Hypothesis. His general model of L2 acquisition is widely accepted by ESOL instructors both at the high school and university level. Krashen's work supports the notion that language is acquired in actual communication in a social context and not solely through rote memorization of grammar rules (Krashen, 1992).

Krashen presents a view of language acquisition that is both conscious as well as subconscious. The conscious process which Krashen calls “language learning” is the memorization of grammar rules (Krashen 1992). Unfortunately, many students acquiring a second language often are enrolled in classes that deal primarily with the conscious process and fail to address the subconscious nature of learning a language. Part of acquiring language occurs on a level which neither children nor adults are aware (Krashen 1992). This phenomenon accounts for true, life-long language development as opposed to a one-time learning experience that may never result in fluency.

Carol Chapelle’s work provides a framework for the Computer Assisted portion of the research into the use of technology to enhance the L2 acquisition of adult learners. In her article “Multimedia CALL: Lessons to be Learned from Research on Instructed SLA,” Chapelle briefly describes a model for Second Language Acquisition (SLA) that provides a basis for her theory about SLA and the use of technology. According to the SLA model, learners first receive L2 input but only the input that can be apperceived can possibly be acquired (Chapelle, 1998). The next step in this model is comprehension. If the comprehension is the result of both semantic as well as syntactic understanding of a language, the learner can progress to the next step which is intake. Intake occurs when the comprehended language input can actually help develop the linguistic system of the learner (Chapelle, 1998). If intake occurs then integration may take place. This is the process whereby intake goes into short term memory and can influence the development of the linguist ability of the learner. The last phase of the model, output, is the observable results of the entire process and may involve another giving feedback to the learner (Chapelle, 1998).

Based on this model, Chapelle gives her seven theories about effective CALL.

These theories are as follows:

1. The linguistic characteristics of target language input need to be made salient.
2. Learners should receive help in comprehending semantic and syntactic aspects of linguistic input.
3. Learners need to have opportunities to produce target language output.
4. Learners need to notice errors in their own output.
5. Learners need to correct their linguist output.
6. Learners need to engage in target language interaction whose structure can be modified for negotiation of meaning.
7. Learners should engage in L2 tasks designed to maximize opportunities for good interaction. (Chapelle, 1998, pp. 3-5).

Purpose of the Study

The purpose of this study was to determine if asynchronous discussion threads will enhance the language acquisition of adult ESOL students. These students already participated in face-to-face classroom instruction that is conducive to learning a second language. The theoretical basis of instruction in these classrooms was social constructivist in nature and based on current effective ESL models of instruction. The major difference between classroom discussion and online discussion is that students in a virtual discussion have time to formulate an answer and use online reference materials (such as an on-line dictionary). Therefore, the questions under study were:

Quantitative Research Questions

1. What are the effects of ASD on oral communication apprehension of high school English language learners?
2. What are the effects of ASD on writing skills?

Qualitative Research Question

3. What are the perspectives of high school ESOL students on the effectiveness of asynchronous discussion in developing language ability?

Operational Definitions

Certain key terms in this research may have different definitions in different contexts. These key terms are defined below:

Adult Language Learner—For purposes of this study, those learners who have experienced fossilization are considered “adult language learners.” Fossilization occurs when certain pronunciations can no longer be mastered in the second language or L2 (Krashen, 1992). The adult language learners in the study are students at the secondary level of instruction.

Asynchronous Discussion Threads—On-line discussion between individuals that do not occur at the same time (synchronously).

Communication Apprehension—Communication apprehension, or a fear of communicating in front of a group, will be measured by the Personal Report of Communication Apprehension (PRCA-24). Obtained scores range from 24-120. Scores below 51 are indicative of people with low communication apprehension. Scores in the 51-80 are of average range and scores over 80 indicate high levels of communication apprehension (McCroskey, 1982).

Face-to-Face discussion/instruction—This is the traditional paradigm in education that involves student and teacher being physically present in the classroom setting.

Writing Skill—Writing skill will be assessed based on number of sentences (6 sentences per 100 words), sentence length (18 words per sentence), Flesch readability (9th grade level), errors in diction (less than 10), percentage of helping verbs compared to total number of verbs used (less than 25) and errors in the use of helping verbs (target is 0) (Writer's Workbench, 2009).

TELPAS (Texas English Language Proficiency Assessment System) Rating

System—This is the system used in Texas to rate ESL students' language ability.

Students are rated once during the school year on all aspects of communication (reading, writing, listening and speaking). The level descriptors (grades 2-12) are:

Beginning English language learners (ELLs) lack the English vocabulary and grasp of English language structures necessary to address meaningfully grade-appropriate writing tasks. The students in the study are all rated at the beginning and intermediate level.

Intermediate ELLs have enough English vocabulary and enough grasp of English language structures to address grade appropriate writing tasks in a limited way.

Advanced ELLs have enough English vocabulary and command of English language structures to address grade appropriate writing tasks, although second language acquisition support is needed.

Advanced High ELLs have acquired the English vocabulary and command of English language structures necessary to address grade-appropriate writing tasks with minimal second language acquisition support (TELPAS Rater Manual, 2008, p. 41).

Glossary of Terms

Teaching English as a second language and using technology in the classroom have evolved exponentially over the past few years. Both the availability of computers and heated debates over bilingual/ESL instruction, has led to much research in both fields and consequently an increase in new vocabulary and familiar words used in a different context. In order to avoid confusion about terminology, the key terms that might cause confusion are defined below:

Brick and Mortar Institutions—This is the term to describe traditional institutions of learning.

Computer Assisted Language Learning—the use of computers to enhance language acquisition (Chapelle, 1998)

ESL—English as a Second Language class or program (Echevarria et. al., 2004)

ELL—English Language Learners

ESOL—English for Speakers of Other Languages (Echevarria et. al, 2004)

L1—Native Language (Echevarria et.al., 2004)

L2—Second Language Acquired (Echevarria et. al., 2004)

SLA—Second Language Acquisition is the process of becoming fluent in a second language (Chapelle, 1998).

Limitations

Since a non-probability sample was used in this quasi-experimental study, generalizability to the entire population of adult ESOL students cannot be assumed.

Assumptions

It was assumed that all participants have access to computers and that they would participate in the discussion threads as directed. It was also assumed that participants will be forthright about their abilities and attitudes concerning the use of technology in instruction. It was further assumed that participants will honestly report their feelings about the use of computers in discussions and their feelings concerning speaking in front of a group.

Significance of the Study

Since the use of asynchronous discussion threads with secondary school ESOL students is not greatly used in South Texas, such a study would show the benefits of this approach to teaching ESOL students who live in the area. It could prove to be a much needed tool for educators to help reach a growing population in need of specialized instruction in language acquisition. Asynchronous discussions could very well give a voice to a group of individuals who have been a silent minority in South Texas—the Adult or Secondary school ESOL student.

CHAPTER 2

LITERATURE REVIEW

The process in which a child engages to learn language seems effortless and provides joy and humor for parents. The truth, however, is that beneath the cuteness of the child's first attempt at learning language, which is truly effortless on the part of the child, a very complicated process is occurring. This process will involve both intricate interactions between the child and his/her world and much cognitive growth.

Learning a second language as an adult can be quite similar to the complexity of learning the first language as a child. However, adults, a group of individuals who have faced language fossilization, face some dilemmas that children do not. Although they have cognitive growth on their side, adults (and teenagers) must conquer psychological and social factors of which the child is completely unaware. Instructors of adult ESOL being aware of these barriers have tried various methods to help lessen their students' apprehensions about learning a second language. One method is the use of Computer Assisted Language Learning (CALL). To understand the possible ramifications of CALL on second language acquisition, a review of literature concerning theories in second language acquisition, current ESOL pedagogy, as well as past and current use of technology and second language instruction needs to be made.

Language Acquisition

The linguist Stephen Krashen has proposed a model of language acquisition that is applicable to adult second language acquisition. Krashen, who has written over 350 papers and books, is widely recognized by ESOL instructors, and his theory concerning language acquisition undergirds many ESOL programs ("Biography of Stephen

Krashen,” 2008). His five hypotheses form the basis for current theory on the acquisition of language (Krashen, 2003). The five hypotheses, as already mentioned, are:

1. The Acquisition-Learning Hypothesis
2. The Natural Order Hypothesis
3. The Monitor Hypothesis
4. The Input (Comprehension Hypothesis)
5. The Affective Filter Hypothesis

The Acquisition-Learning Hypothesis

Krashen distinguishes between “language learning” and “language acquisition” as two distinct processes (Krahsen, 2003). The former involves the conscious process of learning the rules of the language while the latter is the subconscious process of acquiring the language. Although language learning and the correction of errors can help in learning a language, they are both limited (Krashen, 2003).

The Natural Order Hypothesis

According to this hypothesis there is a natural, predictable order in which language (first or second) is acquired. First language (L1) and second language acquisition (L2), however, do not occur in the same order. Krahsen gives as an example that the progressive form of the verb is acquired early in L1 while the third person singular is acquired later. In second language acquisition (SLA), however, although the progressive does come early, the third person singular may never be acquired (Krashen, 2003). This natural order cannot be changed, and it is not based on order of complexity (Krashen, 2003).

The Monitor Hypothesis

When a person attempts to speak in a second language, the words that form in the mind stem from the acquired language. Before the words are uttered, the speaker will consciously apply rules to ensure (monitor) accuracy. After the words are spoken, the speaker may again “self-correct” any errors in utterance. This application of conscious rules does not lead to fluency and plays a very small role in acquiring a second language (Krashen, 2003).

According to Krashen, in order to use the Monitor successfully three criteria are necessary:

1. The acquirer must know the rule.
2. The acquirer must be thinking about correctness, or focused on form
3. The acquirer must have time (Krashen, 2003, p. 3).

This last element is especially difficult when trying to use the monitor in conversation.

The standard conversation does not allow for such self-correction (Krashen, 2003).

Krashen recommends using the Monitor only in the editing process (Krashen, 2003). The Monitor hinders communication too much to be of any use in conversation.

The Input (Comprehension) Hypothesis

According to Krashen, language is acquired when the messages is understood or in other words when the message becomes “comprehensible input” (Krashen, 2003). The difficulty in language acquisition lies in moving the learner from the rule he/she knows onto a new rule. Krashen depicts this phenomenon as $i + 1$ where the i represents what is already known and the $i + 1$ represents the new structure to be learned (Krashen, 2003).

In order to make this transition, the learner needs input that can be understood. The

learner may use previously acquired language structures or general knowledge of the world in making meaning or sense out of the message. The information that surrounds the structure to be learned is referred to as context (Krashen, 2003).

Another well known authority in the field of bilingual education and second language acquisition, J. Cummins, proposed a model in line with Krashen's Input (Comprehension) Hypothesis. According to Cummins the process of second language acquisition should move from information that has much context (comprehensible input) and is cognitively undemanding to context that is reduced and is cognitively demanding. The famous model he proposed is:

Diagram 1

Context Embedded

Cognitively Undemanding	Cognitively Undemanding Context Embedded	Cognitively Demanding Context Embedded	Cognitively Demanding
	Cognitively Undemanding Context Reduced	Cognitively Demanding Context Reduced	

Context Reduced

(Cummins, 2009; Shoebottom, 2008)

When an ESOL student has moved into the quadrant of cognitively demanding and context reduced, he/she will be able to tackle the academic language used in the

classroom. When students reach this level, they demonstrate what Cummins calls Cognitive Academic Language Proficiency (CALP) (Cummins, 1999). This proficiency is necessary to do well in academic settings, and it involves a more sophisticated level of language than the Basic Interpersonal Communication Skills (BICS) used in social settings (Cline & Frederickson, 1996). According to Cummins, the BICS involve those elements of language that are heard or seen (vocabulary, grammar and pronunciation); CALP is the less visible aspects such as semantic meaning and functional meaning (Cline & Frederickson, 1996).

The Affective Filter Hypothesis

Even if the student receives comprehensible input, the input may never add to the language acquisition process. Affective filters are psychological barriers that prevent messages from reaching the language acquisition device (LAD) or that part of the brain involved in language acquisition (Krashen, 2003). Noam Chomsky, a noted linguist who has written extensively on linguistics and philosophy, considers the LAD to affect “. . . a transition from the initial state of the language faculty to later states; the theory of the initial state is sometimes called ‘Universal Grammar’ (UG), adapting a traditional notion to a somewhat different context” (Chomsky, 2000, p. 81). Chomsky felt people are biologically geared for learning language regardless of their environment. Unfortunately, with adults, certain barriers prevent the learning of a language. The barriers or filters that might prevent language from reaching the LAD may include low-self esteem, anxiety, and feelings of not belonging to the group that speaks the target language (Krashen, 2003).

ESOL Pedagogy

The above ideas by Krashen, Cummins and Chomsky are translated into the adult and/or secondary level ESOL classroom in various modes. A close look at what actually transpires in the secondary level ESOL classroom emphasizes the many barriers that students face even under the most ideal conditions. The ideal ESOL classroom, whether in a high school or in a college, should be “student centered.” This is not a new concept and should be the standard for all classes, not just ESOL. Wesche and Skehan (2002) propose that ESOL instruction should involve Communicative Language Teaching (CLT). Some characteristics of CLT include:

1. Activities that allow for frequent interactions between students to solve problems and exchange information. It is through this interaction that students learn how to verbally interact and through this interaction syntactic structures develop.
2. Use of authentic texts.
3. Use of communication activities that are based on “real-world” contexts.
4. Use of approaches that are learner centered. Approaches that are considered learner centered are those that take into account learners’ background and needs and allows learners some autonomy in their own learning (Wesche & Skehan, 2002).

A popular type curriculum used for ESOL instruction that is in line with the principles of CLT, is task-based learning. It is defined as “any structured language learning endeavor which has a particular objective, appropriate context, a specified working procedure and a range of outcomes for those who undertake the task” (Wesche

& Skehan, 2002, 217). The task is any activity that encourages language learning. A task may be any activity which has the following characteristics:

1. Meaning is the primary purpose of the task.
2. Some communication problem must be solved by the students.
3. There must be a relationship between the task and a real-world activity.
4. Task completion must have priority to the student.
5. The assessment of the student task must be based in terms of outcomes (Wesche & Skehan, 2002).

Task-based learning and communicative learning teaching occur across the academic spectrum from elementary school to colleges. These concepts are the ideal that form the basis of many ESL classrooms, and they were practiced in the ESL classes in this study. To understand better the significance of the study, it may be helpful to look at what specific model of ESL instruction was used in the high schools involved in the study and examine what actually happens in high school ESL classes and mainstream classes.

The high schools involved in the study follow the Sheltered Instruction Observation Protocol (SIOP) model. This model has all the characteristics of CLT and Task-based learning. The SIOP model developed out of a need to reach the growing numbers of ESL students in our nation while still meeting standards established by the *No Child Left Behind Act* (NCLB) of 2001 (Echevarria, Vogt, & Short, 2004). In this era of “Standard-based education,” schools had to use limited resources to meet unrealistic expectations. When the state raises standards without out providing support for improvement, the students’ learning suffers (Echevarria et al., 2004).

The purpose of high-stakes testing is to show that states are meeting the standards set by NCLB. In Texas, students must pass all portions of the Texas Assessment of Knowledge and Skills (TAKS) test in order to graduate. For the ESOL student, especially those who are considered beginners, the TAKS test actually tests their knowledge of the English language, not their knowledge of the content (Echevarria et al., 2004). Such standardized tests are often normed on native English speakers who have spent their entire lives in the United States (Echevarria et al., 2004).

To exacerbate the situation further, the ESL programs across the nation have shown to be lacking. Echevarria, Vogt & Short (2004) cite the 1996 National Commission on Teaching and America's Future that a significant shortage of qualified ESL teachers existed. Simply put, there were not enough ESL teachers to meet the growing demands of ESOL students. Of the 41.2% of the 2,984,781 teachers who reported teaching ESOL students in 2000, only 12.5% reported having at least eight hours of ESL training in the past three years (Echevarria et al., 2004). This dire situation needed a solution that would provide a rigorous program of instruction based on solid ESOL pedagogy. The implementation of the SIOP model was the answer for many schools in Texas.

The SIOP model is based on many studies and has certain main features that make it successful. Basically, under the SIOP model, students receive academic language instruction in the mainstream classes. Through ongoing teacher training, mainstream teachers learn ESL strategies that help ESOL students to learn both the content and the academic language used in the classroom (Echevarria et al., 2004). Instead of having mainstream classes as perilous places filled with incomprehensible input, the mainstream

class becomes a “sheltered” area that allows the student the ability to learn language and content material at the same time.

The SIOP Model is made up of thirty items that are categorized into eight components. These components include:

1. Preparation—This component involves designing lesson plans that include ESOL Teaching strategies (language and content objectives, supplemental materials etc.)
2. Building Background—involves making connections with the students’ background
3. Comprehensible Input—making the message understood to the learner through various means
4. Strategies—involves teaching students strategies and using “scaffolding” techniques which are those strategies that build on students prior knowledge in order to gain new knowledge
5. Interaction—encourage student interaction
6. Practice/Application—this component involves extending learning activities.
7. Lesson Delivery—makes sure that teachers are meeting desired objectives
8. Review Assessment Component—assessment of both the teaching practices and what the student has learned (Echevarria, Vogt & Short, 2004).

The above strategies all fit nicely with CLT and task based learning. The SIOP model is learner centered, allows learners to solve their own problems with peers, and it uses authentic texts that connect to the student’s background. The SIOP model is the

ideal setting. What actually occurs in ESOL classes and mainstream classes can give a better understanding of the real dilemmas faced by ESOL students.

Barriers to ESOL Instruction

Linda Harklau in “The ESL Learning Environment in Secondary Schools,” succinctly depicted a typical U.S high school. She asserted that

“ . . . high schools can best be understood as a series of instructional niches that students traverse over the course of a school day. Each of these niches carries certain assumptions and expectations for student performance, and each provide a unique linguistic and academic environment in which to learn language and content area concepts” (Harklau, 1999, p. 42)

Harklau did a three and a half year ethnographic study of second language learning in a high school in Georgia. The majority of the ESL students in this high school were Chinese Americans. As with many high schools across the nation, the sound teaching practices that occurred in the ESL classroom did not occur in the mainstream classroom. Harklau found in the mainstream classroom teacher dominated and controlled discussion with the question-response-evaluation pattern (Harklau, 1999). This can provide some good input; however, the ESL students and their needs were often overlooked (Harklau, 1999). Teachers in the mainstream classes failed to reduce speed of talk, pause, contextualize abstract concepts through the use of nonverbal cues and explain puns (Harklau, 1999). Harklau’s study revealed that most of the input in the mainstream classroom was incomprehensible and caused frustration for the student (Harklau, 1999)

Harklau also found that chance for student output was also hampered by various factors. The size of the class usually reduced an ESL student’s chance of participating in

classroom discussion to 1 in 25 or 1 in 30. Furthermore, some teachers avoided calling on ESOL students out of a fear of embarrassing them. When teachers did call on ESOL students, they tended to use questions that would result in one word or short phrase answers. Added to these problems, the students own apprehension curtailed many chances for output (Faltis & Wolfe, 1999). Harkau noted that due to these barriers, ESOL students in a 12 day period interacted with teachers on average once a day in the mainstream classrooms (Faltis & Wolfe, 1999).

The ESL classrooms that Harklau studied provided a sharp contrast with the mainstream classes. In the ESL classes, students sat in a semicircle during class discussion. Teachers asked open-ended questions, and the teacher would model correct responses. All students were called upon frequently.

Another major difference between mainstream and ESL classes concerned what aspect of language was emphasized. Language can be broken into the following components: speaking, writing (the active processes) and reading and listening (the passive processes). In the ESL class the emphasis was on speaking while in the mainstream classes the emphasis was on writing. Harklau proposed that the reason for this bias might in part be due to the emphasis placed on speech by the structuralists in American linguistics and a reaction against the previous pedagogy which emphasized the written format of grammar translations (Faltis & Wolfe, 1999).

Furthermore, Harklau indicated that educators assumed that when students reach high school, they should be literate and therefore able to handle the academic language used in the classroom (Faltis & Wolfe, 1999). They should be able to, therefore, write about academic subjects. As previously noted, if a student is not ready for input that is

cognitively demanding and context reduced, he/she will be frustrated and resort to coping strategies to manage the work load. Such strategies include rote memorization and simple repetition of material (Faltis & Wolfe, 1999).

Numerous barriers to language acquisition, in addition to those discussed by Harklau, exist in high schools. When speaking about barriers to second language acquisition, one can cite a whole host of societal ills such as: socioeconomic factors, culture shock, literacy issues and post traumatic stress disorder exhibited by students escaping war-torn areas (Collier, 1995). Other less dramatic reasons include shyness and classroom dynamics (Vandrick, 2000). All of these problems are complicated and may not be easily overcome through simple straightforward methods. However, a student's own apprehension in communicating (regardless of the reason why) may be lessened. Students who are afraid to speak out in class miss a valuable opportunity to practice self-expression in the second language. How does an instructor in either the ESL class or the mainstream class help students overcome this apprehension in speaking? Many methods based on current ESL practices exist, but one that has been overlooked in South Texas is the use of technology to help compensate for learners' communication apprehension. Before looking more closely at the use of technology, specifically asynchronous discussion, it is important to understand some of the common barriers to communication in the class. Once the barriers are understood, the beneficial use of technology becomes evident.

One of the major barriers concerns gender. Females participate in a different sort of discourse pattern than males (Faltis & Wolfe, 1999). Discourse can be either: "Discourse-as-providing-known-answers" or "Discourse-as-a-community practice"

(Faltis & Wolfe, 1999, p. 85). The former type of discourse is found in teacher-centered class and does little for the development of language or the development of academic discourse while the later type of discourse has the opposite effect (Faltis & Wolfe, 1999). Faltis and Wolfe (1999) studied four high schools and followed 17 Spanish speaking students through their classes and made some interesting observations about what sort of discourse males and females preferred to engage. Females did speak more often in ESL classes, but they tended to answer yes/no questions or definitions. In other words, they tended to involve themselves in the ineffective form of “discourse-as-providing-known-answers.” Males who participate in such discourse, tended to flout the rules of discourse and used more academic language. Wolfe and Faltis concluded that a different classroom structure was needed in order to have a more equitable participation among males and females. Therefore, a method of discourse in which all can easily participate in their own fashion could enhance language acquisition.

Another aspect of gender that confounds discourse in the classroom concerns cultural implications. In *Ethical Issues for ESL Faculty*, a list of problems that arise when females attempt to participate in class discussion is discussed. These problems, which stem from cultural backgrounds, include:

1. Female speech is sometimes regarded as a deviation from the accepted male norm.
2. English language uses particular forms that seem to marginalize women (e.g. the generic us of “man” and “he”).
3. Women use a more “tentative” and polite form of self expression (Hafernick, Messerchmitt, and Vandrick, 2002).

The authors do note that after approximately thirty years of feminism these instances of sexist language have diminished. They do caution that language takes quite some time to change and that educators should be aware of the dilemmas faced by their female students and be aware of culture influences that might hamper classroom discussion (Haferncik et al., 2002).

Another crucial barrier that affects females and males alike is societal factors that concern the relationship between groups. Collier (1995) noted that factors such as psychological and social distance between first and second language speakers, stereotypes, and hostility among groups hinder second language acquisition (Collier, 1995). In other words, when a group of people are seen as subordinate to the majority, they cannot participate fully in classroom discussion. According to Collier, ESL learners need at least 2 to 3 hours each day of quality language interaction with native speakers in order to activate the second language acquisition process.

Even within the minority language learning culture, barriers exist. Students who come from countries with a caste system or countries with a strict class structure might feel too inhibited to participate in class discussion. At times students from such backgrounds feel they are not “entitled” to speak (Vandrick, 2000). If a student comes from a lower, working class, he/she might feel apprehensive about speaking with a fellow student from an upper class. Unfortunately, many ESL classes require participation so the instructor in such a class is inadvertently playing into a power hierarchy that prohibits certain individuals from speaking and reaching their full potential (Vandrick, 2000).

A final barrier worth noting is the simple fear of making errors. Many ESOL students fear being misunderstood or being ridiculed by native speakers (Vandrik, 2002).

Older learners especially have the overwhelming fear of making errors. Unlike children, adults have the added burden of experiencing “fossilization.” Fossilization is the process whereby a student has a permanent accent that cannot be lessened by any instructional method (Krashen, 1992). At what age this process occurs varies, but it generally occurs by the age of 12 (Krashen, 1992). It has been proposed that fossilization occurs because learners simplify information from the target language to make it comprehensible. This may lead to fossilization of an accent or a grammatical structure (Selinker, 1993). Fossilization causes anxiety and embarrassment in adult students who discover that they cannot, no matter how much they practice, sound like the native speakers.

Computer Assisted Language Learning

Various approaches exist to helping adult learners break down the barriers to second language acquisition due to communication apprehension. It is evident that this apprehension negatively affects second language acquisition (SLA). Gardner and MacIntyre who examined affective filters and variables in language learning, found a direct link between language anxiety, and among other things, information processing (MacIntyre and Gardner, 1994). In their study Gardner and MacIntyre found that the more anxious the students, the less fluent they became. They also tied high levels of communication apprehension to an inability to produce complex sentences (MacIntyre and Gardner, 1994). They conclude that these deficits in acquiring comprehensible input can be overcome if the learner is given a second chance to return to the material that had been presented (MacIntyre and Gardner, 1994). The use of computers, specifically asynchronous discussions, may give the learner a second chance of acquiring the missed information thus lowering anxiety. Before looking at the literature concerning ASD and

a model of its application, it is beneficial to take a look at the use of Computer Assisted Language Learning and how it has developed.

History of Computer Assisted Language Learning

Carol A. Chapelle (2001) gives a concise history of the use of computer assisted language learning in *Computer Applications in Second Language Acquisition: Foundation for Teaching, Testing, and Research*. According to Chapelle, the use of computer assisted learning in second language acquisition dates back to the 1950s. Actual documentation of computer assisted language learning (CALL), however, dates back to the 1960s and 1970s. These early experiments were usually individual endeavors that involved using a computer's mainframe and software that were actually intended for other purposes. This software was usually not very sophisticated. The cost of developing the software (or courseware), however, proved to be quite costly.

Despite the costs, educators became quite fascinated with the use of CALL in helping their students learn a second language. Chapelle gives four noteworthy examples of CALL during this era:

1. Richard Atkinson and Patrick Suppes collaboration with IBM to design a program that would select vocabulary practice based on students' past performance on tests
2. Computer Curriculum which was designed by Atkinson and Suppes in 1967 to provide ESL instruction
3. IBM project with the State University of New York at Stony Brook designed CALL materials for German

4. Three Ontario Universities designed CLEF (Computer-Assisted Learning Exercises for French) for second language instruction for French (Chapelle, 2001)

The CALL activities of this era were seen as more supplemental material and were never considered to replace actual classroom instruction.

Fortunately, the United States government during the 1970s decided to back the development of technology in instruction. This gave a much needed boost to the development of CALL. The government, through the National Science Foundation, gave two companies (Control Data Corporation and the Mitre Corporation) \$10 million to research the efficacy of computer assisted instruction. The Control Data Corporation developed PLATO (Programmed Logic for Automatic Teaching Operation System). The Mitre Corporation developed the TICCIT (Time-Shared, Interactive, Computer-Controlled Information Television) project. These two projects helped develop CALL by including CALL components and by providing laboratories for developing CALL (Chapelle, 2001). Despite these advances, the 1980s saw little development in CALL. Chapelle speculated that this lack of advancement might have been due to primitive technology, poor professional organization and the fact that applied linguistics, at this point, had not matured enough to provide any real direction for research.

The microcomputer of the early 1980s, however, provided the next evolutionary step. People interested in CALL were no longer bound by the use of a university mainframe but could explore on their own any aspect of CALL that was of interest. Some diverged from CALL into areas of testing and research, but the primary interest remained in CALL (Chapelle, 2001).

Chapelle noted the fortuitous coincidence that this era of CALL occurred when Stephen Krashen's theory on second language acquisition became popular. Some, at first, saw CALL as simply types of drill instruction that failed to live up to Krashen's theories, but others argued that it was not the use of computers that fell short of the SLA expectation, but the poorly designed software. What was needed was better software.

The rapid development of technology during the 1980s quickly quelled the early frustrations encountered with computers. More sophisticated hardware and software would drastically change CALL. The CALL software developers sought ways in which the computer could enhance language acquisition in accordance with Krashen's theories (Chapelle, 2001). An example of such development is the use of "grammarland" which would stimulate discourse between the student and the computer. Also, software made possible text analysis programs (grammar checkers) which would give automatic feedback to the students about their writing (Chapelle, 2001).

The 1990s proved to be a time of growth for CALL due to the networking of computers. At the higher education level, many instructors were connected to the internet and the use of Local Area Network (LAN) technology was being used in computer labs. These LAN activities were built upon "learner-learner interactions" on a network of computers (Chapelle, 2001). The use of the internet and the use of LAN provided a written record of student interaction online which in turn allowed for more discourse analysis of SLA (Chapelle, 2001).

By the middle of the 1990s, the internet provided the next major evolutionary step in CALL. Students and instructors were no longer bound to the LAN in a computer lab. Learning a second language became even more self-directed and self-assessment became

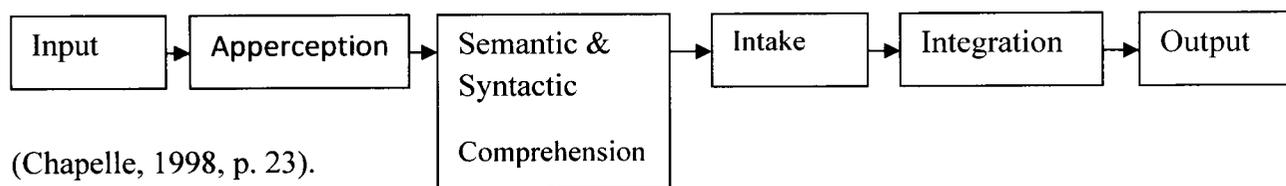
widely available (Chapelle, 2001). Also the world became even larger for students who could now communicate with people from around the globe. The opportunities for synchronous as well as asynchronous discussions were developing. One example of synchronous communication, made popular at this time, was the use of a chat room, or a Moo. Moo stands for MUD Object Oriented. A MUD is a multiple-user-domain (Chapelle, 2001). The internet has proven to be quite a powerful tool in SLA. Computer Assisted Language Learning has developed quite extensively, but instructors and students alike should be aware of what constitutes a good model for CALL.

Theoretical Model for CALL

Chapelle in “Multimedia CALL; Lesson to be learned from research on instructed SLA” proposes a model for CALL that is based upon Krashen’s second language acquisition theories. Specifically, she emphasized in this model the need for an abundance of comprehensible input in order for SLA to occur.

Diagram 2

The model for second language output is as follows:



Input from the target language must be apperceived, or perceived, in order to be acquired. Semantic understanding can occur without syntactic comprehension, but, when both occur at the same time, intake may occur. Intake is language that can potentially develop the students’ second language. Integration is the process by which the intake is held in short term memory and is then used to influence the students’ linguistic input which in

turn affects the output in the L2. This output forces the learner to use the syntax structure of the L2, and it allows for input from others (Chapelle, 1998).

Based on this model and on research into SLA, Chapelle proposed seven hypotheses for Developing Multimedia CALL:

1. The linguistic characteristics of target language input need to be made salient.
2. Learners should receive help in comprehending semantic and syntactic aspects of linguistic input.
3. Learners need to have opportunities to produce target language output.
4. Learners need to notice errors in their own output.
5. Learners need to correct their linguistic output.
6. Learners need to engage in target language interaction whose structure can be modified for negotiation of meaning.
7. Learners should engage in L2 tasks designed to maximize opportunities for good interaction (Chapelle, 1998, pp. 23-25)

The first two hypotheses state basically that what needs to be learned is made readily apparent and that often this input needs to be modified to help the learner understand both the semantic and syntactic elements. Next, the output generated by learner (hypothesis 3) should be meaningful and the learner should be able to notice errors (hypothesis 4) and be given opportunities to correct these errors (hypothesis 5). The learner must also have interaction with others and be able to correct errors in his/her message in order to make meaning (hypothesis 6). Finally, the learner should be continually engaged in tasks that elicit the highest form of two-way interactive communication (Chapelle, 1998). Such interaction involves a line of communication that does not end in a “yes, no” situation but

involves dialogue. Also, the outcome should have advanced communication goals in which the learners work together to meet the goal (Chapelle, 1998). The above theories by Chapelle may serve as a guiding model with any CALL activity.

Current Research on the Effectiveness of Asynchronous Discussion on SLA

A review of literature concerning asynchronous discussion in higher education can be quite lengthy. When narrowed to adult ESOL instruction, some interesting studies have been completed concerning the use of ASD to enhance ESOL programs. Due to the nature of the study, only those articles dealing with the effects of ASD on the writing process and the effects of ASD on communication apprehensions will be reviewed.

One concern of educators involves whether or not an ASD provides a suitable medium to improve student writing. Various studies have shown that ASD does, in fact, provide ESL students a wonderful opportunity to improve their writing. Stephen Carey and Crittenden (2000) studied 12 graduate students involved in a seminar on second language acquisition research. The students, five of whom were ESL students and seven of whom were native speakers, participated in both on-line and face-to-face discussions (F/F). Carey compared how the native speakers and the non native speakers would respond in both situations. In this study, Carey encouraged cooperative learning instead of competition and instructed his students to respond as much as possible in both types of discussions which were over class readings. Students were encouraged to use the reading to develop their own metacognitive strategies in second language acquisition. Students' responses on-line as well as discussions in class were analyzed. Students also participated in interviews. Carey found that ESL students made more contributions in the online discussions than they did in the F/F sessions. During the interview process,

ESL students responded that they found the on-line environment to be less threatening. As many researchers in ASD have noted, the use of ASD gives students unlimited time to respond thus allowing for well-thought out and refined answers (Black, 2005; Bowman, 2001; Carey, 2000; Chen, 2005; Teo & Webster; Wang, 2007; Wu & Hiltz, 2003). The students in Carey's study, felt that because of this unlimited time to respond, their writing improved (Carey, 2000). They also felt that their acquisition of English improved rapidly and this improvement transferred to the F/F classes. By the end of the 12 week seminar, the ESL students were contributing on par with the native speakers in F/F discussions. As a side benefit, the ESL students in this program reported higher levels of self-confidence (Carey,2000).

Another study that supported Carey's findings that ASD is a beneficial medium for improving writing skills of foreign language learners was conducted by Chi-Fen Emily Chen (2005). This study concerned the effectiveness of using ASD to improve content and language learning in an experienced-based language learning class. In this study the amount of self-reflection the students' exhibited was also examined. In Chen's study, third-year English majors enrolled in an introductory course to second language acquisition at a national university in Taiwan were randomly assigned to four groups (between 8 to 11 students were in each group). They were required to answer one question given by the instructor and give feedback to at least two of their group's members' postings. Chen conducted this study with a class in 2003 and a class from 2004. The only difference between the two classes was that the 2003 class had more instructor feedback and more discussion threads than the 2004 class. Concerning the effectiveness of using ASD to enhance learning, 81% of the class from 2003 gave a

positive response and 91% of the class from 2004 gave a positive response. Concerning the effects of learning the English language, approximately 70% of the students in both the 2003 and 2004 classes gave positive responses. In self-reports, students felt that their overall style improved, but they felt that because the emphasis was on meaning that their grammar skills were still lacking (Chen, 2005).

Chen noted that the ASD proved to be an even more powerful tool than dialogue journals in that ASD allows for “. . . both one-to-one and one-to-many communication channels, [and] such reflective conversation in cyberspace can allow multiple stories and multiple points of view to be shared and exchange among learners at almost any time” (Chen, 2005, p.2). Everyone has a chance for self expression. The use of ASD allows students to overcome any linguistic barriers to improve their language skills (Chen, 2005). Chen concluded that overall the use of ASD did improve students’ writing skills. Chen does caution, however, that although ASD is an effective tool it is just that—a tool. A tool can be used ineffectively and have poor results (Chen, 2005).

Chen’s study does support the use of ASD to help students be more reflective in their writing and produce written pieces that accurately convey the students’ intended meaning. What effect does ASD have, however, on the form of student writing? Susana Sotillo (2000) tackled this issue in a study in which she analyzed the syntactic complexity of writing produced by learners enrolled in two sections of advanced ESL writing. She defined syntactic complexity as writing that presented related ideas using subordination and embedded subordinate clauses. The students in the study were required to spend an hour once a week posting their reactions to a reading assignment to an ASD. There was a synchronous portion of the class as well. The results showed that students produced

lengthier, more syntactically complex sentences than found in synchronous discussions. She concluded that students were more focused on form and meaning to a greater degree than when engaged in the rapid synchronous discussions. She noted, however, that synchronous discussion allowed for more of a range in discourse functions such as greetings, requests for information and adversarial moves than did asynchronous discussions (Sotillo, 2000).

Another aspect of form in writing concerns that of modal verbs. Modal auxiliaries present difficulties for even the most advanced learners of English (Montero, Watts, and García-Carbonell, 2007). Some examples of modal auxiliary verbs include: must, need, ought, should, can, may and will. They prove to be difficult because they do not follow the normal patterns of verbs (Montero et al., 2007). The use of modals is especially difficult for Spanish speakers to grasp. For example, the use of *may* and *can* in English translates to only one word in Spanish, *poder* (Montero et al., 2007). Even native speakers of English misuse the words *may* and *can*. The study of this form in writing—the modal—is significant in that such use may also actually transfer to and enhance oral skills (Montero et al, 2007).

In a study by Montero, Watts, and García-Carbonell (2007), the use of modals were examined in four different types of communications (ASD, writing, speech and research articles). In this study, English as a Foreign Language (EFL) students of computer science at a technical university in Spain were asked to participate in various discussion forums on the topic of computer science devices. The students were learning both how professionals and the public communicate electronically and how to improve their English language skills. The use of modals by the EFL students was analyzed and

compared to use of modals in speech, writing and in research articles. The results of the study showed a significantly higher use of modals in discussion forums than found in research articles with few exceptions (Montero et al., 2000). An example of an exception is the use of the word *may* was more frequent in research articles than in ASD, but this is due to the nature of research articles that require the use of *may* in stating ideas and making inferences (Montero et al., 2000). The authors concluded that the high use of models in ASD, which represents a “middle-ground” between speaking and writing, may have the added benefit of improving the students’ actual speaking skills (Montero et al., 2007).

In order to write well at the university level, a student should be able to exhibit higher order thinking in written text that is accurate in both form and content and that uses academic language. Therefore, an area of concern in the use of ASD to improve writing skills of ESL students is whether or not such a form of discussion can encourage the growth of academic language that involves higher level thinking.

Stephen Carey and Elizabeth Crittenden (2000) looked at the development of cognitive academic language through the use of ASD. Carey and Crittenden hold that most university second language programs develop Basic Interpersonal Communication Skills (BICS), but few develop the Cognitive Academic Language Skills (CALPS) necessary to do well in higher education. Students use BICS in social settings which tend to have much context and reduced cognitive requirements. Academic language, however, requires for reduced context and heightened cognitive skills (Cline & Frederickson, 1996). Second language programs at the university level, for various reasons, require

very little time in developing the second language through interaction. The use of ASD may be the answer to this problem (Carey & Crittenden, 2000).

Carey and Crittenden (2000) conducted four studies of second language programs. The four studies concerned four different second language situations. The researchers assessed the successfulness of the program based on academic literacy and oral fluency. The four studies were:

1. A Longitudinal Study of French Immersion in Canada

Results of Study: Although immersion has much success in developing of a second language, Crittenden found that the level of language ability in this situation was not close to that of the students' English abilities. When taking an academic course that was entirely in French and expecting a French test, students consistently scored better when they could answer the test questions in English.

2. A Longitudinal Study of the Effects of an Academic Year Abroad ESL

Immersion Programme for Japanese Students

Result of Study: Students did do better on the TOFEL post test after their language immersion experience, but the students who did the best on this test were those in the lowest quartile of the group. The authors noted that Japanese students while abroad interacted with each other instead of native speakers of English. Therefore, those students who had some previous ESL background reached a plateau while those who had no ESL background showed marked improvement.

3. FSL (French Speakers of other Languages) Core Programmes

Result of Study: The effect of reaching a plateau was also evident in these programs. Students who were comfortable in their French speaking abilities with other people whose second language was also French, never found a need to extend their level of mastery.

4. Minority Francophone School Programmes

Result of Study: French speakers found that schools did not have programs that were sufficient enough to raise French academic competence in native speakers of French.

The common problem in all four programs is that a variety of contexts (home, school, society) need to be utilized in order to reach academic competence in a second language. Crittenden and Carey suggested that the solution to this problem was to supplement limited ESL class time with online instruction and to institute “virtual year abroad programmes” (Carey & Crittenden, 2000). The reasons the researchers gave as to why such virtual environments will improve academic language include the following:

1. Asynchronous discussions allow for an unlimited amount of interaction between students.
2. Asynchronous discussions allow for students to look at the same message repeatedly to determine its meaning and then compose an accurate message for posting. Such an act will facilitate the actual learning of the language that will result in “assimilation” and accommodation into the students’ schema.
3. Students have access to outside sources (such as dictionaries) while reading and composing messages.

4. The ASD gives students a sense of empowerment or autonomy which will result in higher levels of interest.
5. In an ASD, students cannot “tune-out” of the discussion.
6. In ASD, students’ sense of anxiety and embarrassment are lessened.
7. The ASD allows for students to contemplate not only the language but the academic content for as long as needed (Carey & Crittenden, 2000).

Evidently, the potential for the use of ASD in supplementing already existing ESL programs is enormous. It can, if used correctly, greatly enhance ESL programs by allowing for the development of the cognitive academic language of students.

Related to development of academic language is the development of critical thinking skills. Alison Black addressed the issue of developing critical thinking, or reflection in an online class in her article “The Use of Asynchronous Discussion: Creating a Text of Talk” (2005). This article looked at her personal experiences in teaching online graduate literacy courses in teacher education programs over a six year period. She reported comments her students made on surveys, and she reflected on her own experiences. Although her article did not deal directly with ESOL, it did deal with critical thinking that is required to do academic writing. Black cautions that instructors need to ensure that ASD becomes an area for communication as well as critical thinking. She stated that not much research had been performed on the written discourse presented in ASD. She called this written discourse the “text of talk” (Black, 2005).

Black’s first insight was that in order for ASD to stimulate critical thinking, the instructors need to make sure that the text of talk was reflective and not just student talk. Student talk is the informal talk that involves pleasantries or simply asking a question.

Reflective talk shows what the student has learned and shows critical thinking over the topic under discussion (Black, 2005). Black stated that she found it easy to quantify the number of responses that students need to make. She admitted, however, that is difficult to ensure discussion that is reflective in nature.

Black also gave some insights to the counterproductive elements of ASD that might actually inhibit critical thinking and reflective thought. One of the major problems she mentioned concerned students' failure to recognize the importance of contributing in an ASD. She noticed that some students tend to "lurk" by just reading comments instead of participating in discussion. These students, in essence, did not exist. Another major problem concerned the workload aspect. Black cautioned instructors to be cognizant of the fact that too many ASD threads would result in short, superficial comments. To offset such problems, Black suggested that teachers model good reflective responses and give students a checklist to guide them in developing their own ASD. When instructors give clear expectations, better results are obtained.

In the conclusion of her article, Black discussed the overall implications of reflective, critical ASD on the writing process. She noted that students tended to produce more formal writing so as not to be misunderstood in the virtual class. Students would read their own comments, revise and edit it before posting thus producing a more formal piece. Black also commented that she saw an improvement in not only the content of student writing, but the mechanics as well (Black, 2005).

Another element of the effects of ASD that has not been greatly studied is that of communication apprehension. Some studies have been conducted on what students feel during on-line discussion, but little has been done on the study of communication

apprehension in F/F situations after the use of various forms of computer assisted communication. Nike Arnold (2007) does cover this issue in a study of 56 students in the third semester of German courses in a U.S university. Students were assigned to one of three forms of communication: ASD, synchronous or Face to Face (F/F). Students took a pre and posttest questionnaire based on the Foreign Language Classroom Anxiety Scale (FLCAS) and participated in interviews. The findings of this study indicated that the F/F discussion and synchronous discussion made students feel more confident in speaking German than the asynchronous discussions. The researcher suggested that perhaps the immediacy of synchronous discussion is similar to oral communication and that perhaps this was the reason that students felt synchronous discussion gave them more confidence in oral communication than did ASD (Arnold, 2007). Arnold further noted an interesting point that a student made concerning nervousness and ASD. The student felt that ASD actually lessened nervousness. The student indicated that oral communication still invoked feelings of nervousness regardless of the level of confidence in self expression in German (Arnold, 2007). In the conclusion, Arnold stated that ASD might be most suitable for writing tasks and not interactive exchanges. He also felt that further research needed to be completed concerning the use of CMC (Computer Mediated Communication) with students suffering from severe communication apprehension and that further research needed to be conducted on long term linguistic benefits incurred due to reducing communication apprehension (Arnold, 2007).

As the above studies indicate, much research has been conducted concerning the use of ASD at the college level. More research with the use of ASD in a high school setting may prove to be beneficial in instructing a group of individuals who at times

demonstrate the lack the maturity of self-directed learning and who may have the added burden of high levels of communication apprehension. Although high school students learning a second language are similar in several aspects to college students learning a second language, it should be emphasized that teenagers are simply not adults. This study, therefore, will prove to be unique in that it will study the use of ASD to improve writing among ESOL high school students, and it will examine the effects that such mode of discussion has on a student's overall communication apprehension.

CHAPTER 3

METHODOLOGY

Introduction

Students who are classified as ESOL at the secondary level may face various factors that prevent participation in class discussion which may inhibit second language acquisition. The purpose of the study was to determine if asynchronous discussions (ASD) affected the second language acquisition of secondary level ESOL students. The researcher examined the effects of ASD in an online ESOL language community (*All English All the Time*) on improving writing skills and communication apprehension of a non-probability sample of English Language Learners at the secondary level. The study was guided by the following research questions:

Quantitative Research Questions

1. What are the effects of ASD on oral communication apprehension of high school English language learners?
2. What are the effects of ASD on writing skills?

Qualitative Research Question

3. What are the perspectives of high school ESOL students on the effectiveness of asynchronous discussion in developing language ability?

Research Design

The study employed a quasi-experimental research design, as intact groups served as the experimental and comparison groups (Gall, Gall, & Borg, 2007). The ASD was the active independent variable, which was manipulated by the researcher, with two levels: 1) ASD discussion and 2) face-to-face discussion. The time with two levels, 1)

pretest and 2) posttest, was the within factor. Therefore, a one between and one within factor repeated measures design (Stevens, 2002) was implemented, which is shown in Diagram 3.

Diagram 3

Study Design

	Time	
	Pretest	Post Test
Intervention		
ASD		
Face-to-Face Discussion		

Setting

The study took place in an urban school district in South Texas. The school district during the 2008-2009 school year served of 38,474 students on 60 campuses. The ethnic breakdown of the school district was 76.8% Hispanic, 15.8% White, 5.3% African American, 1.9% Asian Pacific Islander, and .2% Native American (Campus AEIS Report Card, 2009).

The intervention was conducted in three high schools. High School A served a population of 1,817 students. The ethnic breakdown of the campus was 56.5% Hispanic, 34.1% White, 5.1% African American, 3.9% Asian/Pacific Islander, and .4% Native Americans. High School B served a population of 958 students. The ethnic breakdown of High School B was 86.8% Hispanic, 7.8% African American, 5.1% White, .1% Asian/Pacific Islander, and .1% Native American. High School C served a population of 1,841 students. The ethnic breakdown for High School C was 90.5% Hispanic, 5.0% African

American, 3.5% White, .7% Asian/Pacific Islander, and .3% Native American. The fourth high school served as the comparison group. The high school served a population of 2,451 students. The ethnic breakdown of the campus was 56.5% Hispanic, 34.1% White, 5.1% African American, 3.9% Asian/Pacific Islander, and .4% Native American (Campus AEIS Report Card, 2009).

Intervention

Asynchronous Discussion involves students participating in online discussions in a virtual language community. The duration of the intervention was five weeks. Each week, the researcher provided the experimental group with one question. The participants were asked to answer the question and comment on at least one other participant's response to the question. Participants were neither advised on the length of each posting nor were instructed to use resources to correct their postings. The five questions were:

1. What is the dress code at your school? Do you think the dress code is necessary?
2. What do you think about the ban on cell phones?
3. What type of music do you like?
4. What is your favorite food?
5. What do you miss the most from your birthplace?

The researcher monitored the participants' responses to make sure that inappropriate conversations were not taking place. If the responses were appropriate, the researcher would allow the post to appear in the discussion thread. None of the responses was inappropriate. The participants had the options of answering the questions either at

home or at school. While at the school and in the classroom, the participants had access to a teacher and a paraprofessional.

The comparison group participated in face-to-face discussion which was led by the teacher in an actual classroom setting. The discussion followed the traditional mode of instruction in which the teacher asked open-ended questions which were answered and discussed by the participants. There was no paraprofessional in the classroom.

Subject Selection

The study was limited to ESL students. The participants were recruited from the abovementioned four high schools. The study took place during the months of September and October of 2009. In the three high schools in which ASD was implemented, there were 22 ESL students. There were seven ESL students in the fourth high school which served as the comparison group. The 29 ESL students agreed to participate in the quantitative component of the study. Permission to conduct the study was obtained from the Institutional Review Board at Texas A&M University – Corpus Christi, as well as the school district (Appendix D). All study participants signed a consent form (Appendix E).

Instrumentation

The Personal Report of Communication Apprehension (PRCA-24) was used to ascertain levels of apprehension concerning speaking in the classroom (Appendix A). According to McCroskey (1982, p. 1), the PRCA-24 is “. . . highly reliable [alpha regularly >.90] and has high predictive validity.” The instrument uses a 5-point Likert-type scaling (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, and Strongly Agree = 5). The instrument is comprised of 24 statements concerning feelings about

communication. The total score ranges from 24 to 120. Scores above 80 indicate high levels of apprehension concerning communication. Scores in the 51 - 80 range represent an average amount of communication apprehension, while scores below 51 suggest a very low level of apprehension concerning communication in groups (McCroskey, 1982).

In addition to the total score, the PRCA-24 measures four subscales. The subscale of *Group Discussion* measures apprehension in communicating in informal group discussions. A score greater than 20 indicates a high level of apprehension while a score of less than 11 indicates low levels of apprehension during group discussions. The subscale of *Meetings* measures apprehension in formal meetings. Scores greater than 20 indicate high levels of apprehension and scores less than 13 indicate low levels of apprehension. The subscale of *Interpersonal Discussion* measures apprehension one on one informal conversation. Scores greater than 18 indicate high levels of apprehension and scores less than 11 indicate low levels of apprehension. The subscale of *Public Speaking* measures apprehension in giving speeches. Scores greater than 24 indicate high levels of apprehension while scores less than 14 indicate low levels of apprehension.

The assessment for writing skills involved the use of a 100 word writing sample. The Writer's Workbench Software, WWS (Writer's Workbench, 2009), was used to score the writing sample. Six measures of writing skills were obtained: 1) number of sentences, 2) sentence length, 3) readability level, 4) percentage of diction errors, 5) percentage of to be verbs compared to total verbs, and 6) percentage of helping verb errors. The default option in WWS is 500 words. The criteria were adjusted for the 100 word writing samples that the study participants had written, as follows:

1. Number of sentences per 100 words: 6 word minimum

2. Sentence Length: 18 words
3. Readability Level: 9th grade level
4. Percentage of Diction Errors: < 10
5. Percentage of to be verbs compared to total verbs: < 25
6. Percentage of Helping Verb Errors: 0

A demographic questionnaire was used to collect data on selected characteristics of the participants to describe the sample (Appendix C).

Focus group lead questions which were used to gather the qualitative data to answer the third question were 1. How do you feel about posting to the *All English All the Time* web site? 2. What are the advantages and disadvantages of talking on line? 3. Do you feel more comfortable talking online or talking in class? Did you ever ask for help or use a dictionary to post your response on line?

Data Collection

Demographic data were collected at the beginning of the experimentation. Due to pretest, posttest nature of the study design, quantitative data were collected at the beginning and the end of the experimentation. The PRCA-24 was administered at pretest and posttest. The participants wrote the 100 word writing sample before the implementation of the intervention and immediately after the completion of the five week experimentation.

The qualitative data were collected via a focus group which was conducted at the completion of the experimentation. The focus group was conducted in a private room which was limited to seven ESL students who had volunteered to take part in this phase

of the study, the researcher who served as the facilitator, and one individual who video-taped the session. The discussion was also audio-taped.

Data Analysis

The quantitative data were coded and entered into the computer. The Statistical Package for the Social Sciences (SPSS) was used for the purpose of data entry, manipulation and analysis. Descriptive statistics were used to analyze, summarize, and organize the quantitative data. Fisher's Exact Probability Test (Daniel, 1995) was used to compare the experimental and comparison groups on the basis of demographic characteristics which were categorical in nature. For the characteristics which were continuous in nature, t-test for independent samples was performed and Levene's Test was used to examine the homogeneity of variances assumption (Field, 2009)

A series of t-test for independent samples was performed to compare the experimental and comparison groups on the basis of pretest measures of oral communication apprehension and writing skills. The lack of statistical significance could have been due to small sample size. The mean difference effect sizes were computed by dividing the mean difference by the pooled standard deviation and were characterized as .2 = small effect, .5 = medium effect, and .8 = large effect (Cohen, 1988). The average effect size was .51; thus, pre experimental equivalence was not assumed.

The pretest measures were treated as the co-variates and a series of one-way analysis of covariance (ANCOVA) was performed to compare the experimental and comparison groups on the adjusted posttest measures of oral communication apprehension and writing skills (Stevens, 1999). The homogeneity of regression slopes

was met in all analyses. The adjusted means were used to examine the practical significance of the findings.

To analyze the qualitative data, the audio-tape of the focus group was transcribed by the researcher. The transcript was content analyzed to propose themes which summarized the qualitative data.

CHAPTER IV

RESULTS

Introduction

The purpose of the quasi experimental study was to determine if asynchronous discussion added to regular classroom discussion would affect communication apprehension of adult ESOL students, as well as improving their writing skills. The beginning language learners were recruited from four high schools. All attended ESL classes for language instruction taught by ESL certified teachers. Each class had at least one paraprofessional who assisted the teacher in language instruction.

The experimental group (n = 22) participated in asynchronous discussions for a five week period. The participants were instructed to respond to various topics, as well as commenting on other students' responses. The comparison group (n = 7) participated in traditional face-to-face in-class discussions for the same time period.

A Profile of Subjects

All students completed a demographic questionnaire prior to the study. They were asked to indicate their age, gender, ethnicity, internet access, internet use, participation in chat rooms (both English and non English), use of the online discussion threads, previous use of the asynchronous discussion, use of e-chalk (school webpage), computer access at school, employment status, and the number of hours worked per week.

The categorical variables are summarized in Table 1. The Fisher's Exact Probability was used to compare the experimental and comparison groups on the basis of the demographic characteristics. The level of significance was set at .01 to reduce the

probability of making Type I errors due to performing multiple univariate tests. There was no statistically significant difference between the two groups on the basis of gender (*Fisher's Exact* $p = .67$), ethnicity (*Fisher's Exact* $p = .04$), internet access (*Fisher's Exact* $p = .41$), chat room participation (*Fisher's Exact* $p = .22$), participation in non English chat rooms (*Fisher's Exact* $p = .09$), participation in an online discussion thread (*Fisher's Exact* $p = .19$), participation in asynchronous discussion (*Fisher's Exact* $p = 1.00$), e-chalk use (*Fisher's Exact* $p = 1.00$), and employment status (*Fisher's Exact* $p = 1.00$). All had access to computers at school. The majority of the participants (66.00%) had confidence in using the internet. Nearly 76.00% of the participants had never used the e-chalk webpage.

There were no statistically significant differences between the experimental group ($M = 16.05$, $SD = 1.13$) and the comparison group ($M = 16.14$, $SD = .90$) on the basis of age, $t(27) = .21$, $p = .84$. The homogeneity of variances assumption was met, *Levene's F* = .24, $p = .63$.

On the basis of the weekly number of hours worked, the difference between the experimental group ($M = 24.00$, $SD = 17.18$) and the comparison group ($M = 12.50$, $SD = 3.54$) was not statistically significant, $t(5) = .89$, $p = .41$. The homogeneity of variances assumption was met, *Levene's F* = 1.17, $p = .33$).

Table 1
 Profile of Subjects – Categorical Variables

	Intervention (n = 22)	Comparison (n = 7)
Variable	f (%)	f (%)
Gender		
Female	13 (59.10)	3 (42.90)
Male	9 (40.90)	4 (57.10)
Ethnicity		
Hispanic	19 (86.40)	3 (42.90)
Asian	3 (13.60)	4 (57.10)
Internet Access		
Yes	11 (50.00)	5 (71.40)
No	11 (50.00)	2 (28.60)
Chat Room Participation		
Yes	9 (40.90)	5 (71.40)
No	13 (59.10)	2 (28.60)
Chat Room Not In English		
Yes	7 (31.80)	5 (71.40)
No	15 (68.20)	2 (28.60)
Online Discussion Thread		
Yes	6 (27.30)	4 (57.10)
No	16 (72.70)	3(42.90)

Table 1 Continued

	Intervention	Comparison
	(n = 22)	(n = 7)
Variable	f (%)	f (%)
Asynchronous Discussion		
Yes	1 (4.50)	0 (0.00)
No	21 (95.50)	7 (100.00)
E-chalk use		
Yes	4 (18.20)	1 (14.30)
No	18 (81.80)	6 (85.70)
Computer Access at School		
Yes	22 (100.00)	7 (100.00)
No	0 (0.00)	0 (0.00)
Employment Status		
Yes	5 (22.70)	2 (28.60)
No	17 (77.30)	5 (71.40)

Quantitative Results

Analysis of Pretest Data

Oral Communication

Prior to the start of the asynchronous discussions, both groups completed the PRCA-24. In addition to a total score, the instrument measures four dimensions of oral communication. A series of t-test for independent samples was performed to compare the

experimental and comparison groups on the basis of PRCA-24 total and scale scores. In spite of unequal sample sizes, the homogeneity of variance assumption was met in all analyses. The level of significance was set at .01 to adjust for multiple tests. Mean difference effect sizes were computed to examine the practical significance of the findings. As can be seen in Table 2, other than the *group discussion*, none of the group differences was statistically significant.

Table 2

Analysis of Pretest PRCA-24 Data

	Intervention		Comparison		t	p	d*
	(n = 22)		(n = 7)				
	M	SD	M	SD			
Group Discussion	20.00	2.69	15.29	5.28	3.16	< .01	1.22
Meetings	18.91	3.01	15.57	5.19	2.13	.04	.82
Interpersonal	18.64	3.30	15.71	4.99	1.80	.08	.69
Public Speaking	18.05	2.61	17.71	5.91	0.21	.83	.08
Total PRCA	75.60	9.53	64.29	19.36	2.10	.04	.81

* d = mean difference effect size, .2 = small, .5 = medium, .8 = large

Group Discussion High > 20, Low < 11

Meetings High > 20, Low < 13

Interpersonal High > 18, Low < 11

Public Speaking High > 24, Low < 14

Total PRCA High > 24, Low < 14

Writing Skills

At the pretest, all participants wrote a 100-word paragraph to demonstrate their writing skills. Six dimensions of writing skills were measured, using the Writer's Workbench software. A series of t-test for independent samples was performed to examine the group differences. The homogeneity of variances assumption was met in all analyses. None of the group differences was statistically significant. The lack of statistical significance in the overwhelming majority of the analyses could have been due to small sample sizes. The mean difference effect sizes ranged from .08 to 1.22, with the mean of .51. Therefore, pre experimental equivalent was not assumed. Results are summarized in Table 3.

Table 3

Analysis of Pretest Writing Skills Data

	Intervention		Comparison					
	(n = 22)		(n = 7)		t	p	d	
	M	SD	M	SD				
Number of Sentences	5.86	4.10	8.28	3.54	1.40	.17	.54	
Sentence Length	28.11	15.02	18.73	10.24	1.53	.14	.59	
Readability	8.71	3.06	8.04	2.25	.53	.60	.20	
Diction Alerts	38.16	31.33	31.41	27.35	.51	.62	.20	
To Be Verbs	40.41	20.28	43.57	13.67	.38	.70	.15	
Helping Verbs	1.56	4.64	0.00	0.00	.88	.39	.34	

* d = mean difference effect size, .2 = small, .5 = medium, .8 = large

Number of Sentences per 100 words: 6

Sentence Length: 18 words

Readability Level: 9th grade

Percentage of Diction Errors: < 10

Percentage of To Be Verbs Vs Total verbs: < 25

Percentage of Helping Verb Error: < 0

Analysis of Posttest Data

Oral Communication

The study's first quantitative research question was: What are the effects of ASD on oral communication apprehension of adult language learners? After a five week period of participation in asynchronous discussion threads, adult ESOL students in both the experimental and comparison groups completed the PRCA-24 to ascertain changes in apprehension concerning oral communication.

The pre-experimental equivalence was not assumed. The pretest measures were used as the covariates. A series of one-way analysis of covariance (ANCOVA) was performed to examine the effects of asynchronous discussion on the overall and scale scores of the PRCA-24.

PRCA-24 Group Discussion Scale

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = 1.37, p = .25$; thus, the homogeneity of regression slopes assumption was met. The observed and adjusted means and standard deviations are shown in Table 4.

Table 4

Observed and Adjusted Means and Standard Deviations: PRCA – 24 Group Discussion*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	17.63	14.71
Adjusted Mean	16.47	15.88
Standard Deviation	3.35	4.68

* Group Discussion: High > 20, Low <11

The ANCOVA showed that group differences on the basis of adjusted measures of *Group Discussion* at posttest were not statistically significant, $F(1, 26) = .12, p = .73$. The mean difference effect size was .14, favoring the intervention group, suggesting that the intervention group experienced more apprehension in group discussion than did the comparison group. Results are summarized in Table 5.

Table 5

ANCOVA Summary Table: PRCA – 24 Group Discussion

Source	SS	df	MS	F	p
Intervention	1.31	1	1.31	.12	.73
Covariate	78.72	1	78.72	7.11	.01
Error	287.80	26	11.07		

PRCA-24 Discussions in Meeting Scale

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = 2.78, p = .11$; therefore, the homogeneity of regression slopes assumption was met.

The observed and adjusted means and standard deviations are shown in Table 6.

Table 6

Observed and Adjusted Means and Standard Deviations: PRCA – 24 Discussions in Meetings*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	17.64	16.70
Adjusted Mean	18.29	19.23
Standard Deviation	3.02	4.65

* Discussions in Meetings: High > 20, Low < 13

The ANCOVA showed that group differences on the basis of adjusted measures of *Discussions in Meetings Discussion* at posttest were not statistically significant, $F(1, 26) = 1.37, p = .07$. The mean difference effect size was .75, favoring the comparison group, suggesting that the comparison group had more apprehension in taking part in discussions in meetings than the intervention group. Results summarized in Table 7.

Table 7

ANCOVA Summary Table: PRCA – 24 Discussions in Meetings

Source	SS	df	MS	F	p
Intervention	29.11	1	29.11	3.62	.07
Covariate	111.67	1	111.67	13.90	< .01

Table 7 (continued)

Source	SS	df	MS	F	p
Error	208.85	26	8.03		

 PRCA-24 Interpersonal Discussion Scale

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = .89, p = .36$; thus, the homogeneity of regression slopes assumption was met.

Table 8 shows the observed and adjusted means and standard deviations.

Table 8

Observed and Adjusted Means and Standard Deviations: PRCA – 24 Interpersonal Discussion*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	18.18	18.14
Adjusted Mean	17.77	18.56
Standard Deviation	4.21	1.68

* Interpersonal Discussion: High > 18, Low < 11

The ANCOVA showed that group differences on the basis of adjusted measures of *Interpersonal Discussion* at posttest were not statistically significant, $F(1, 26) = .22, p = .65$. The mean difference effect size was .18, favoring the comparison group, which showed that the comparison group experienced more apprehension in interpersonal discussion than did the intervention group. Results are summarized in Table 9.

Table 9

ANCOVA Summary Table: PRCA – 24 Interpersonal Discussion

Source	SS	df	MS	F	p
Intervention	2.98	1	2.98	.22	.65
Covariate	30.67	1	30.67	2.23	.15
Error	357.46	26	13.75		

PRCA-24 Public Speaking Scale

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = 2.34, p = .14$. The homogeneity of regression slopes assumption was met.

The observed and adjusted means and standard deviations are shown in Table 10

Table 10

Observed and Adjusted Means and Standard Deviations: PRCA – 24 Public Speaking*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	19.64	17.14
Adjusted Mean	19.55	17.22
Standard Deviation	4.49	5.11

* Public Speaking: High > 24, Low < 14

The ANCOVA showed that group differences on the basis of adjusted measures of *Public Speaking* at posttest were not statistically significant, $F(1, 26) = 1.52, p = .23$.

The mean difference effect size was .48, favoring the intervention group, suggesting that

the intervention group showed more evidence of public speaking apprehension than did the comparison group. Results are summarized in Table 11.

Table 11

ANCOVA Summary Table: PRCA – 24 Public Speaking

Source	SS	df	MS	F	p
Intervention	28.74	1	28.74	1.52	.22
Covariate	87.55	1	87.55	4.62	.04
Error	492.39	26	18.94		

PRCA-24 Total Score

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = .53, p = .47$; thus, the homogeneity of regression slopes assumption was met. The observed and adjusted means and standard deviations are shown in Table 12.

Table 12

Observed and Adjusted Means and Standard Deviations: PRCA – 24 Total Score*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	73.10	68.29
Adjusted Mean	69.82	71.56
Standard Deviation	13.31	14.26

* Total PRCA Score: High > 24, Low < 14

The ANCOVA showed that group differences on the basis of adjusted measures of the total *PRCA-24 Total* at posttest were not statistically significant, $F(1, 26) = .10, p =$

.75. The mean difference effect size was .13, favoring the comparison group. The comparison group showed more apprehension in oral communication than did those who participated in online communication. Results summarized in Table 13.

Table 13

ANCOVA Summary Table: PRCA – 24 Total Score

Source	SS	df	MS	F	p
Intervention	13.81	1	13.81	.10	.75
Covariate	1392.43	1	1392.43	10.20	< .01
Error	3548.81	26	136.49		

Writing Skills

The study's second quantitative research question was: What are the effects of ASD on writing skills of adult language learners? After a five week period of participation in asynchronous discussion threads, adult ESOL students in both the intervention and comparison groups composed a 100-word paragraph to ascertain changes in writing skills. Specifically, number of sentences, sentence length, readability, percentage of errors in diction, percentage of to be verbs compared to verbs, and percentage of helping verb errors were analyzed.

The pre-experimental equivalence was not assumed. The pretest measures were used as the covariates. A series of one-way analysis of covariance (ANCOVA) was performed to examine the effects of asynchronous discussion on writing skill

Number of Sentences

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = .81, p = .38$; thus, the homogeneity of regression slopes assumption was met. The observed and adjusted means and standard deviations are shown in Table 14.

Table 14

Observed and Adjusted Means and Standard Deviations: Number of Sentences*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	6.00	8.29
Adjusted Mean	6.48	7.81
Standard Deviation	3.96	3.55

* Recommended Number of Sentences per 100 words: 6

The ANCOVA showed that group differences on the basis of adjusted measures of *Number of Sentences* at posttest were not statistically significant, $F(1, 26) = .67, p = .42$. The mean difference effect size was .32, favoring the comparison group. Results are summarized in Table 15.

Table 15

ANCOVA Summary Table: Number of Sentences

Source	SS	df	MS	F	p
Intervention	8.79	1	8.79	.67	.42
Covariate	66.28	1	66.28	5.08	.03
Error	339.15	26	13.04		

Sentence Length

There was one outlier which was not included in the analysis. The student had not used any periods in the write-up, which had resulted in one lengthy sentence of 111 words. The covariate by intervention interaction effect for *Sentence Length* was not statistically significant, $F(1, 24) = .16, p = .69$; thus, the homogeneity of regression slopes assumption was met. The observed and adjusted means and standard deviations are shown in Table 16.

Table 16

Observed and Adjusted Means and Standard Deviations: Sentence Length*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	23.23	17.00
Adjusted Mean	21.91	18.31
Standard Deviation	13.19	7.40

* Recommended Sentence Length: 18 words

The ANCOVA showed that group differences on the basis of adjusted measures of *Sentence Length* at posttest were not statistically significant, $F(1, 25) = .44, p = .51$. The mean difference effect size was .26, favoring the intervention group. Table 17 summarizes the results.

Table 17

ANCOVA Summary Table: Sentence Length

Source	SS	df	MS	F	p
Intervention	61.15	1	61.15	.44	.51

Table 17 (continued)

ANCOVA Summary Table: Sentence Length

Source	SS	df	MS	F	p
Covariate	334.56	1	334.56	2.41	.13
Error	3472.846	25	138.91		

Readability

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = .05, p = .83$; thus, the homogeneity of regression slopes assumption was met. The observed and adjusted means and standard deviations are shown in Table 18.

Table 18

Observed and Adjusted Means and Standard Deviations: Readability*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	8.96	7.03
Adjusted Mean	9.01	6.97
Standard Deviation	3.57	.89

* Recommended Readability level: 9th grade

The ANCOVA showed that group differences on the basis of adjusted measures of *Readability* at posttest were not statistically significant, $F(1, 26) = .212, p = .16$. The mean difference effect size was .57, favoring the intervention group. Results are summarized in Table 19.

Table 19

ANCOVA Summary Table: Readability

Source	SS	df	MS	F	p
Intervention	27.71	1	21.71	2.12	.16
Covariate	5.85	1	5.85	.57	.46
Error	266.40	26	10.25		

Diction Alerts

The covariate by intervention interaction effect of the percentage of errors in diction (*Diction Alerts*) was not statistically significant, $F(1, 25) = 3.68, p = .07$; thus, the homogeneity of regression slopes assumption was met. The observed and adjusted means and standard deviations are shown in Table 20.

Table 20

Observed and Adjusted Means and Standard Deviations: Diction Alerts*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	34.82	34.40
Adjusted Mean	34.11	35.11
Standard Deviation	26.75	26.33

* Recommended Percentage of Diction Errors <10

The ANCOVA showed that group differences on the basis of adjusted measures of *Diction Alerts* at posttest were not statistically significant, $F(1, 26) = .01, p = .93$. The

mean difference effect size was .04, favoring the comparison group. Results are summarized in Table 21.

Table 21

ANCOVA Summary Table: Diction Alerts

Source	SS	df	MS	F	p
Intervention	5.26	1	5.26	.01	.93
Covariate	1117.99	1	1117.99	1.61	.22
Error	18069.35	26	694.97		

To Be Verbs

The covariate by intervention interaction effect was not statistically significant, $F(1, 25) = .34, p = .56$. The homogeneity of regression slopes assumption was met. The observed and adjusted means and standard deviations are shown in Table 22.

Table 22

Observed and Adjusted Means and Standard Deviations: To Be Verbs*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	37.64	21.57
Adjusted Mean	37.83	21.38
Standard Deviation	21.42	13.20

* Recommended Percentage of To Be Verbs versus Total Verbs <25%

The ANCOVA showed that group differences on the basis of adjusted measures of *To Be Verbs* at posttest were not statistically significant, $F(1, 26) = 3.52, p = .07$. The

mean difference effect size was .74, favoring the intervention group. Results are summarized in Table 23.

Table 23

ANCOVA Summary Table: To Be Verbs

Source	SS	df	MS	F	p
Intervention	1428.35	1	1428.35	3.52	.07
Covariate	140.99	1	140.99	.35	.56
Error	10537.82	26	405.30		

Helping Verbs

The covariate by intervention interaction effect could not be computed because the number of helping verbs for the comparison group at pretest was zero. Table 24 shows the observed and adjusted means and standard deviations.

Table 24

Observed and Adjusted Means and Standard Deviations: Helping Verbs*

	Intervention Group (n = 22)	Comparison Group (n = 7)
Observed Mean	3.08	2.38
Adjusted Mean	3.13	2.33
Standard Deviation	8.46	4.34

* Recommended Percentage of Helping Verb Errors: 0%

The ANCOVA showed that group differences on the basis of adjusted measures of *Helping Verbs* at posttest were not statistically significant, $F(1, 26) = .05, p = .82$. The

mean difference effect size was .09, favoring the intervention group. Results are summarized in Table 25.

Table 25

ANCOVA Summary Table: Helping Verbs

Source	SS	df	MS	F	p
Intervention	3.32	1	3.32	.05	.82
Covariate	1.98	1	1.98	.03	.86
Error	1616.25	26	26.16		

Summary of Quantitative Results

Prior to the study, students completed a demographic questionnaire, provided a 100 word writing sample, and completed the PRCA-24 instrument. The writing sample was analyzed according to six writing skills (number of sentences, sentence length, readability, diction alerts, to be verbs, and helping verbs) and the PRCA-24 data were used to measure the students' communication apprehension in four areas of oral communication (group discussion, discussions in meetings, interpersonal discussions, and public speaking) as well as overall oral communication. A series of t-tests for independent samples was performed to examine the group differences. The mean difference effect sizes ranged from .08 to 1.22, with the mean of .51. Therefore, pre experimental equivalent was not assumed.

The pretest measures were used as the covariates and a series of one-way analysis of covariance (ANCOVA) was performed to examine the effects of asynchronous discussion on the adjusted posttest measures of the PRCA-24 and writing skills scores.

None of the group differences was statistically significant, which could have been due to small sample sizes. The mean difference effect sizes were used to examine the practical significance of the findings (.2 = small effect, .5 = medium effect, .8 = large effect).

Table 26 shows a summary of the effect sizes.

Table 26

Summary of Mean Difference Effect Sizes

Adjusted Outcome Measure	Effect Size*
PRCA-24	
Group Discussion	.14, favoring the intervention group
Discussions in Meetings	.75, favoring the comparison group
Interpersonal Discussion	.18, favoring the comparison group
Public Speaking	.48, favoring the intervention group
Total Score	.13, favoring the comparison group
Writing Skills	
Number of Sentences	.32, favoring the comparison group
Sentence Length	.26 favoring the intervention group
Readability	.57, favoring the intervention group
Diction Alerts	.04, favoring the comparison group
To Be Verbs	.74, favoring the intervention group
Helping Verbs	.09, favoring the intervention group

* Mean difference effect size, .2 = small, .5 = medium, .8 = large

Qualitative Results

Seven Hispanic students (two males and five females), ranging in age from 14 to 16, from the experimental group volunteered to participate in the focus group. The qualitative data were used to answer research question 3: “What are the perspectives of adult language learners on the effectiveness of asynchronous discussion in developing language ability?”

After eating lunch and getting to know each other, the seven participants were informed that the session would be video and audio taped but that their identities would be kept confidential and that the only person to view the recordings would be the researcher. The participants were asked four lead questions concerning the use of asynchronous discussion. Occasionally, students expressed their opinions in Spanish. The researcher restated the answer in English and asked those involved in the study if the interpretation were correct. The other students involved in the focus group would provide added information to the researcher’s interpretation. The lead questions were: 1. How do you feel about posting to the *All English All the Time* Web site? 2. What are the advantages and disadvantages of talking on line? 3. Do you feel more comfortable talking online or talking in class? 4. Did you ever ask for help or use a dictionary to post your response on line? The content analysis of the discussion resulted in five themes.

The first theme to emerge was the overall positive attitude students had concerning the use of virtual discussion. Over half of the students felt positive about talking on line. The other half seemed neutral on the topic. One student had no response and seemed very reticent to participate in the discussion (although she had freely agreed to participate in the focus group). Reluctant participation in a focus group can be a very

real problem for the researcher and is often caused by a lack of awareness concerning power dynamics in the group (Marshall & Rossman, 2006). Possible group dynamics seemed to be a reason that the subject may have felt uncomfortable. As the discussion continued, however, the researcher was able to gather more information from this one particular student who expressed a positive attitude concerning meeting others in a virtual setting.

The second theme regarded the ease students had using computers. Only one student expressed some apprehension regarding the use of computers because she stated she “can’t do computers.” This student expressed an inability to use the keyboard accurately.

The third theme that emerged was that although students enjoyed chatting online they felt dismay at the lack of nonverbal cues. When asked whether they felt more comfortable talking in class or talking online, four students felt more comfortable talking in class. They expressed the need to see the person with whom they were speaking in order to make sure he/she understood what the speaker was stating. All agreed that seeing a person’s face could give valuable nonverbal messages that obviously cannot be detected from a posting. This need to use nonverbal cues by the ESOL student has been supported by research (Bowman, 2001). One student stated, however, that he preferred to speak online since talking in class was harder for him due to distractions.

The fourth theme concerned the desire students had to express themselves clearly and accurately. All students used references such as dictionaries to produce what they considered to be accurate messages. Many of the students said they would ask a teacher to proofread what they had written.

The fifth theme that became evident was that the participating students saw ASD as more of a socializing tool instead of a tool to learn a second language. They saw the use of asynchronous discussion as a great way to make new friends and meet other people who spoke languages different from their own. Only one student expressed the opinion that she felt it was a good way to learn another language.

Summary of Qualitative Results

The qualitative results suggested that the focus group participants had enjoyed the online conversation. The only perceived disadvantage was the inability to pick up on nonverbal cues. Only one student had apprehension concerning the use of technology. Anecdotally, the researcher did note the advanced abilities of the vast majority of students in using technology. No student appeared to be technologically illiterate or not having access to computers. All students expressed that they had access to computers at school and many had access to computers both at home and at school. The participants indicated that they had used dictionaries as well as teacher input in order to express themselves in grammatically correct postings.

CHAPTER V

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Introduction

The purpose of the quasi experimental study was primarily to determine if asynchronous discussion added to regular classroom discussion would affect oral communication apprehension and improve writing skills of secondary ESOL students. The results of the quantitative portion of the study appear to be inconclusive with a few exceptions while the qualitative portion yielded some interesting results which may indicate a direction for further study.

Summary

Summary of the Quantitative Results

For the quantitative portion of the study, a writing sample was taken from the students before and after the intervention (the use of ASD). The writing sample was analyzed in regards to six writing skills (number of sentences, sentence length, readability, diction alerts, to be verbs, and helping verbs). Participants also completed the PRCA-24 before and after the intervention. The data were used to measure the students' communication apprehension in four areas of oral communication (group discussion, discussions in meetings, interpersonal discussions, and public speaking) as well as overall oral communication. None of the group differences was statistically significant, which may have been due to small sample sizes. The mean difference effect sizes were used to examine the practical significance of the findings (.2 = small effect, .5 = medium effect, .8 = large effect). Table 26 shows a summary of the effect sizes.

Concerning the PRCA-24, the experimental group did show some improvement in both interpersonal communication and discussion in meetings. This may be due to the fact that these students engaged in online discussions similar to the informal communication found in classroom interactions. Consequently, their apprehension concerning such forms of communication had been lessened.

Summary of Qualitative Results

The qualitative results suggested that the focus group participants had enjoyed the online conversation and saw asynchronous discussion, for the most part, to be a great way to make friends. When asked the advantages to ASD form of communication, participants in the focus group agreed that it was a great way to make new friends. One female participant said it was “Good to talk to other people without pressure.” This same participant also added that it was “Good to talk with other high schools and get to know other people.” Another female participant said “it [ASD] is good because you make new friends.” One of the male participants said ASD is “Good to meet different kinds of people who speak different languages.” Only one student in the focus group saw ASD as a beneficial method for improving language skills.

The only perceived disadvantage participants expressed was the inability to pick up on nonverbal cues. The need for ESL students to use non verbal cues to help understand a second language is documented (Bowman, 2001). A hybrid class discussion would be the ideal use of ASD whereby the ESL student can practice the second language with and without nonverbal cues.

Overall, participants did not demonstrate fears concerning the use of computers. Only one student had apprehension concerning the use of technology. Specifically, she said

she didn't "Do computers. . ." as she tapped the table with her fingers. The researcher took this to mean she did not know how to touch type very well. Anecdotally, the researcher noted the advanced abilities of the vast majority of students in using technology. No student seemed to be technologically illiterate or have a limited access to computers. All students stated that they had access to computers at school and many had access to computers both at home and at school. The participants indicated that they had used dictionaries as well as teacher input in order to express themselves in grammatically correct postings.

Discussion and Conclusions

At first glance the data collected in both the quantitative and qualitative portion seem not to indicate any real effect from the intervention. However, upon closer scrutiny, some observations may be deduced.

First, concerning the PRCA-24, the intervention group showed a lessening of apprehension concerning interpersonal discussion and discussion in meetings but not in the more formal area of giving speeches and classroom discussions. This may be due to the fact that asynchronous discussion mimics the same sort of informal environment found in class interpersonal communications and informal meetings. So, although students did not show a marked change in all areas of oral communication, they did show a change in the sort of discussion involved in asynchronous discussion. This is the type of discussion in which many ESOL students do not participate in a face-to-face classroom setting.

Concerning the writing sample, research indicates that the intervention group should have shown an improvement (Carey, 2000). With this study, however, the

intervention group showed little if any effect on writing skills. One wonders if this is due to other extenuating factors. Students were not required to submit grammatically correct discussions nor were they advised to the length of their response. According to Chapelle, in order for computer assisted learning to be effective in second language acquisition, the message that was created by the student should be corrected so that the student can learn from his/her errors. The student needs to have an opportunity to notice errors, correct errors, and modify their message to make it more comprehensible (Chapelle, 1998). During the study, students did not query each other about their intended message. The participants in the focus group did, however, express that they would consult either dictionaries or teachers to make sure that their postings were grammatically correct. As evidence by the postings, few students produced grammatically correct sentences. Furthermore, no student responded to a message for clarification. One wonders if given more time and more specific directions in line with the theories of Chapelle's Computer Assisted Language Learning, the intervention group would have shown increase in writing skill abilities.

Recommendations

Several recommendations would improve the effectiveness of the study. First, some simple instructions would have improved the results. Students should have been directed to write a certain amount per posting and be required to either use online sources or a teacher to improve their responses to all discussion threads. They should have been impressed that their very best writing should be submitted. Also, a longer study might show some increase in writing skills. Instead of a five week period, a year-long study might show increased improvement of writing skills.

Furthermore, the researcher wonders if students had been informed that they should consider their oral communication in their content classes the responses would have been different on the PRCA-24. The students might have been thinking about oral communication in their ESL classes when completing the PRCA-24 as opposed to oral communication in their content area classes. Research indicates that ESL students feel comfortable talking in their ESL classes and that such classes usually foster discussion (Harklau, 1999). In other classes, however, ESL students do little if any talking and their language experiences are, at best, passive.

Suggestions for Future Studies

The researcher suggests that the study be replicated with a larger sample size over a longer period of time. Another suggestion that may provide some insightful results is the same study conducted through a content area class instead of an ESL class. It is in the content area class in which ESL students experience the most communication apprehension. It would be interesting to study the effects of ASD on students' level of communication apprehension in a non ESL class.

Another suggestion to make this study more beneficial to both educators and ESL students alike is to include ESL students who have been exited from ESL classes but have not been exited from the ESL programs (intermediate to advanced language learners). These students may have (depending on the training of the teacher) the least amount of structured instruction conducive to learning a second language and are thus those most prone to communication apprehension.

The effects of social economic structure and the use of computer assisted language learning might also pose an interesting topic for future research. The researcher noted

that those students whose parents had professional careers seemed to be more adept at using computers and scored higher on the writing skills pretest. All students were at approximately the same level of language acquisition and computer literacy and yet those from a higher class seemed to the researcher to have the skills necessary to be successful at second language acquisition. This fact posed several questions: Did class structure play at all into the face-to-face discussion? Did the anonymity of the ASD prove to lessen class distinction thus improving the quality of responses? As noted previously by Vandrick, entitlement plays into the amount of participation by students in class discussion. Those of a higher class tend to speak more (and are rewarded by the teacher) while those of a lower class defer to those of the higher class (Vandirck, 2000). Such topics were beyond the scope of this research, but would perhaps prove to reveal interesting results about the influence of class dynamics on the quality of communication.

A final suggestion is to explore the use of social networking as a means to help second language learners. The researcher was impressed by the focus group's conclusion that the best part of ASD is that they could meet other people. Students did not see the ASD as a learning tool, as many educators do, but saw it as a means to socialize. Regardless of the differing perspectives of educators and students, online social networking in its various forms (ASD, synchronous discussions etc.) allows for a safe place in which students can practice much needed communication skills. A study of the different forms of social networking and its effect on second language acquisition may prove quite beneficial.

Overall, students in the intervention group showed little if any improvement in writing skills but showed improvement in communication apprehension in interpersonal

discussion and meetings. These were the two areas that should have shown improvement due to the fact that the informal nature of conversation in ASD mimics the sort of informal language used in dyads (whether interpersonal or a meeting). During the focus group students indicated that they enjoyed meeting other people online and tried to produce their very best writing. They did, however, indicate a strong need to see non verbal cues to understand the message of the person speaking. However, this hindrance aside, the students in the focus group seemed to overwhelmingly enjoy the ASD experience.

References

- Antonella, D. The use of technology in second language learning: The ESL approach. Retrieved November 9, 2004 from <http://www.matrix.fau.edu/emile/anto/finalpaper/ESL&Technology.htm>.
- Arnold, N. (2007). Reducing foreign language communication apprehension with computer-mediated communication: A preliminary study. *System*. 2007. 35 (4), 469-486.
- Attali, Y. & Powers, Don. (2008). A developmental writing scale. Princeton, N.J.: ETS.
- Biography of Stephen Krashen. Retrieved July 29, 2008 From <http://www.s9.com/biography/Stephen.Krashen>.
- Black, A. (2005). The use of asynchronous discussion: Creating a text of talk. *Contemporary Issues in Technology and Teacher Education*, 5 (1), 5-24. SUNY-Oneonta, USA.
- Bowman, L. (2001). Interaction in the online classroom. *Teachers.Net Gazette*. (Eric Document Reproduction Service No. ED 464 319).
- Campus AEIS Report Card. (2007). Retrieved July 27, 2008 from <http://www.tea.state.tx.us>.
- Carey, S. (2000). Within student comparison of ESL acquisition-through content between virtual and F/F seminar for ESL and native speakers' negotiated meaning.

- Crawford et al. (EDS). Proceedings of Society for Information Technology and Teacher Education International Conference 2000 (pp. 282-284). Chesapeake, VA: AACE.
- Carey, S. & Elizabeth, Crittenden. (2000). Using technology to foster authentic communication for second language students. *Cross-Roads of the New Millennium. Proceedings of the Technological Education and National Development (TEND) Conference*. Abu Dhabi, United Arab Emirates.
(ERIC Document Reproduction Service No. ED 447 277).
- Chappelle, C. (1998). Multimedia CALL: Lessons to be learned from research on instructed SLA. [Electronic version]. *Language Learning & Technology*. Vol. 2, No. 1, 22-34.
- Chappelle, C. (2001). *Computer Applications in Second Language Acquisition: Foundations for Teaching, Testing, and Research*. New York, NY: Cambridge University Press.
- Chen, Chi-Fen Emily. (2005). Experience-based language learning through asynchronous discussion. Taipei, China: National Kaohsiung First University of Science and Technology.
- Cohen, J. (1988). *Statistical power analysis for the behavioral science*. 2nd ed. Hillsdale, NJ: LEA.
- Chomsky, N. (2000). *New Horizons in the Study of Language and Mind*. Cambridge: Cambridge University Press.
- Cline, T. & Frederickson, Norah. (Eds.). (1996). *Curriculum Related Assessment, Cummins And Bilingual Children*. Philadelphia, PA: Multilingual Matters LTD.

- Collier, V. (1995). *Promoting Academic Success for ESL Students: Understanding Second Language Acquisition for School*. Jersey City, New Jersey: NJTESOL-BE.
- Cummins, J. 1999. BICS and CALP: Clarifying the distinction. (ERIC Document Reproduction Service No. ED 438 551).
- Cummins, J. 2009. Basic interpersonal communicative skills and cognitive academic language Proficiency. J. Cummings Bilingual Education Web. Retrieved December 20,2009 from <http://www.iteachilearn.com/cummins/bicscalp.html>
- Daniel, W. W. (1995). *Biostatistics: A foundation for analysis in the health sciences*. New York: John Wiley & Sons, Inc.
- Echevarria, J., Mary Ellen Vogt & Deborah J. Short. (2004). *Making Content Comprehensible for English learners: The SIOP Model*. San Francisco, California: Pearson Education, Inc.
- Faltis, C. & Wolfe, Paula M. (Eds.) (1999). *So Much to Say: Adolescents, Bilingualism, and ESL in the Secondary School*. New York: Teachers College Press. <http://www.ntia.doc.gov/reports/anol/NationOnlineBroadbando4.htm>.
- Field, A. (2009). *Discovering statistics using SPSS*. (3ed.) Los Angeles: Sage Gall, Publications.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). *Educational research* (8th Ed). Boston, MA: Pearson.
- Hafernik, J., Messerschmitt, Dorothy S., & Vandrick, Stephanie. (2002). *Ethical Issues for ESL Faculty: Social Justice in Practice*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.

- Jia, Y, Eslami, Zohreh P., & Burlbaw, Lynn M. (2006). ESL teachers' *Bilingual* perceptions and Factors influencing their use of classroom-based reading assessment. *Research Journal*. 30, 407-430. Retrieved July 29, 2008 from http://brj.asu.edu/vol30_no2/art8.pdf.
- Harklau, L. (1999). The ESL learning environment in secondary schools. In Faltis, Christian J. & Wolfe, Paula M. (Eds.) (1999). *So Much to Say: Adolescents, Bilingualism, and ESL in the Secondary School*. New York: Teachers College Press. <http://www.ntia.doc.gov/reports/anol/NationOnlineBroadbando4.htm>.
- Kotter, J.P. (1996). *Leading Change*, Boston: Harvard Business School Press.
- Krashen, S. (1992). *Fundamentals of Language Education*. Beverly Hills, California: Laredo Publishing Co., Inc.
- Krashen, S. (2003). *Explorations in Language Acquisition and Use*. Portsmouth, NH: Heinemann.
- Kuo, E. *English as a second language: Program approaches at community colleges*. Los Angeles, California: University of California at Los Angeles. (ERIC Document Reproduction Service No. ED 447 859).
- Legislative priorities 2005. (2004). *Proceedings of the Texas Association of Community Colleges*, 1-24.
- Local education and business communities focus on “closing the gaps” in Texas. Retrieved November 11, 2004, from <http://www.brazosport.cc.tx.us/-events/closinggap91102.htm>.

- MacIntyre, P. and Gardner, R.C. 1994. The effects of induced anxiety on three stages of cognitive processing in computerized vocabulary learning. *Studies in Second Language Acquisition*, v16 n1 p1-17 Mar 1994. (Eric Document Reproduction Service No. ED EJ 481 601).
- Marshall, C. and Rossman, Gretchen B. 2006. *Designing Qualitative Research*. Thousand Oaks: Sage Publications.
- McCroskey, J.C. (1982). *An Introduction to Rhetorical Communication (4th Ed)*. Englewood Cliffs, N.J.: Prentice hall.
- Montero, B., Watts, Frances, & Amparo García-Carbonell. (2007). *Discussion forum interactions: Text and context. System*. 35 (2007) 566-582.
- Murdoch, S., White, Steve, Hoque, Md. Nazrul, Pecote, Beverly, You, Xiuhong, Balkan, Jennifer. (2002). A summary of the Texas challenge in the twenty first century: Implications of population change for the future of Texas. Department of Rural Sociology, Texas A&M University System. The Center for Demographic and Socioeconomic Research and Education
- Palmieri, P. Technology in education...do we need it? (ERIC Document Reproduction Service No. ED 409 464)
- Shoebottom, P. Second Language Acquisition—Essential Information.1996-2007. Retrieved July 29, 2008 from <http://esl.fis.edu/teachers/support/cummins.htm>.
- Selinker, Larry. (1993). Fossilization as simplification. (ERIC Document Reproduction Service No. ED 371 575).

- Sotillo, S. (2000). Discourse function and syntactic complexity in synchronous and Asynchronous communication. *Language Learning & Technology*. 4 (1) 82-119
May 2000 Montclair State University.
- Stevens, J. P. (2002). *Applied multivariate statistics for the social sciences*. Hillsdale, NJ: LEA.
- Stevens, J.P. (1999). *Intermediate statistics: A modern approach*, 2nd ed. Mahwah, NJ: LEA, Inc.
- Suárez-Orozco, M., & Páez, Mariela M. (2002). *Latinos Remaking America*. Los Angeles, California: University of California Press.
- TELPAS (Texas English Language Proficiency Assessment System) Rater Manual Grades 2-12. 2008. Texas Education Agency. Retrieved April 28, 2008, from <http://www.tea.state.tx.us/student.assessment>.
- Teo, Yiong-Hwee & Webster, Len. (2008). Acquiring knowledge from asynchronous discussions. *JL. of Technology and Teacher Education*. 16 (3), 265-281.
- U.S Department of Commerce. (2004). *A Nation Online: Broadband Entering the Age*. Retrieved July 29, 2008 from <http://www.ntia.doc.gov/reports/anol/nationOnlineBroadband0.4htm>.
- Van Der Branden, K., (Ed.) (2006). *Task-Based Language Education: From Theory to Practice*. New York: Cambridge University Press.
- Vandrick, S. (2000). Language, culture, class, gender, and class participation. University of San Francisco. (ERIC Document Reproduction Service No. ED 473 086).

Virtual College of Texas. (2008). VCT.org. Retrieved April 21, 2008 from

<http://www.vct.org>.

Wang, Y. (2007). Building the community of inquiry through asynchronous online discussions. In C. Crawford et al. (Eds.) *Proceedings of Society for Information Technology and Teacher Education International Conference 2007*, 3176-3177
Chesapeake, VA: AACE.

Wesche, M. B., & Skehan, P. (2002). Communicative, task-based, and content-based language instruction. In R. B. Kaplan (Ed.), *The Oxford handbook of applied linguistics* (pp. 207-288). New York: Oxford University Press.

Writer's Workbench. (2009). IL: EMO Solutions.

<http://www.emo.com>.

Wu, Dezhi & Hiltz, Starr Roxanne. (2003). Online discussions and perceived learning. *Ninth Americas Conference on Information Systems 2003*, 687-696.

Appendix A

Personal Report of Communication Apprehension (PRCA-24)

The PRCA-24 is the instrument which is most widely used to measure communication apprehension. It is preferable above all earlier versions of the instrument (PRCA, PRCA10, PRCA-24B, etc.). It is highly reliable (alpha regularly $>.90$) and has very high predictive validity. It permits one to obtain sub-scores on the contexts of public speaking, dyadic interaction, small groups, and large groups. However, these scores are substantially less reliable than the total PRCA-24 scores-because of the reduced number of items. People interested only in public speaking anxiety should consider using the PRPSA rather than the public speaking sub-score drawn from the PRCA-24. It is much more reliable for this purpose.

This instrument is composed of twenty-four statements concerning feelings about communicating with others. Please indicate the degree to which each statement applies to you by marking whether you: **Strongly Disagree = 1; Disagree = 2; are Neutral = 3; Agree = 4; Strongly Agree = 5**

_____ 1. I dislike participating in group discussions.

_____ 2. Generally, I am comfortable while participating in group discussions.

_____ 3. I am tense and nervous while participating in group discussions.

_____ 4. I like to get involved in group discussions.

_____ 5. Engaging in a group discussion with new people makes me tense and nervous.

_____ 6. I am calm and relaxed while participating in group discussions.

_____ 7. Generally, I am nervous when I have to participate in a meeting.

_____ 8. Usually, I am comfortable when I have to participate in a meeting.

_____ 9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.

_____ 10. I am afraid to express myself at meetings.

_____ 11. Communicating at meetings usually makes me uncomfortable.

_____ 12. I am very relaxed when answering questions at a meeting.

_____ 13. While participating in a conversation with a new acquaintance, I feel very nervous.

_____ 14. I have no fear of speaking up in conversations.

_____ 15. Ordinarily I am very tense and nervous in conversations.

_____ 16. Ordinarily I am very calm and relaxed in conversations.

_____ 17. While conversing with a new acquaintance, I feel very relaxed.

_____ 18. I'm afraid to speak up in conversations.

_____ 19. I have no fear of giving a speech.

_____ 20. Certain parts of my body feel very tense and rigid while giving a speech.

_____ 21. I feel relaxed while giving a speech.

_____ 22. My thoughts become confused and jumbled when I am giving a speech.

_____ 23. I face the prospect of giving a speech with confidence.

_____ 24. While giving a speech, I get so nervous I forget facts I really know.

SCORING:

Group discussion: 18 - (scores for items 2, 4, & 6) + (scores for items 1,3, & 5)

Meetings: 18 - (scores for items 8, 9, & 12) + (scores for items 7, 10, & 11)

Interpersonal: 18 - (scores for items 14, 16, & 17) + (scores for items 13, 15, & 18)

Public Speaking: 18 - (scores for items 19, 21, & 23) + (scores for items 20, 22, & 24)

Group Discussion Score: _____

Interpersonal Score: _____

Meetings Score: _____

Public Speaking Score: _____

To obtain your total score for the PRCA, simply add your sub-scores together.

Scores can range from 24-120. Scores below 51 represent people who have very low CA. Scores between 51-80 represent people with average CA. Scores above 80 represent people who have high levels of trait CA.

NORMS FOR THE PRCA-24: (based on over 40,000 college students; data from over 3,000 non-student adults in a national sample provided virtually identical norms, within 0.20 for all scores.)

	Mean	Standard Deviation	High	Low
Total Score	65.6	15.3	> 80	< 51
Group:	15.4	4.8	> 20	< 11
Meeting:	16.4	4.2	> 20	< 13
Dyad (Interpersonal):	14.2	3.9	> 18	< 11
Public:	19.3	5.1	> 24	< 14

Source:

McCroskey, J. C. (1982). *An introduction to rhetorical communication* (4th Ed). Englewood Cliffs, NJ: Prentice-Hall.

Note: J.C. McCroskey states that “All material on this site is provided free-of-charge and may be used at no cost so long as it is appropriately cited” The above PRCA-24 is found at this site. Only the questionnaire itself and not the scoring guide will be provided to the students.

Appendix B

The following is a copy of the PRCA-24 that will actually be given to the students to complete.

Personal Report of Communication Apprehension (PRCA-24)

Directions: Listed below are twenty-four statements about feelings concerning communicating with others. Please indicate the degree to which each statement applies to you by marking whether you: **Strongly Disagree, Disagree, are Neutral, Agree, Strongly Agree.**

1. I dislike participating in group discussions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>				

2. Generally, I am comfortable while participating in group discussions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>				

3. I am tense and nervous while participating in group discussions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>				

4. I like to get involved in group discussions.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<input type="radio"/>				

5. Engaging in a group discussion with new people makes me tense and nervous.

Strongly Disagree Disagree Neutral Agree Strongly Agree

6. I am calm and relaxed while participating in group discussions.

Strongly Disagree Disagree Neutral Agree Strongly Agree

7. Generally, I am nervous when I have to participate in a meeting.

Strongly Disagree Disagree Neutral Agree Strongly Agree

8. Usually, I am comfortable when I have to participate in a meeting.

Strongly Disagree Disagree Neutral Agree Strongly Agree

9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.

Strongly Disagree Disagree Neutral Agree Strongly Agree

10. I am afraid to express myself at meetings.

Strongly Disagree Disagree Neutral Agree Strongly Agree

11. Communicating at meetings usually makes me uncomfortable.

Strongly Disagree Disagree Neutral Agree Strongly Agree

12. I am very relaxed when answering questions at a meeting.

Strongly Disagree Disagree Neutral Agree Strongly Agree

13. While participating in a conversation with a new acquaintance, I feel very nervous.

Strongly Disagree Disagree Neutral Agree Strongly Agree

14. I have no fear of speaking up in conversations.

Strongly Disagree Disagree Neutral Agree Strongly Agree

15. Ordinarily I am very tense and nervous in conversations.

Strongly Disagree Disagree Neutral Agree Strongly Agree

16. Ordinarily I am very calm and relaxed in conversations.

Strongly Disagree Disagree Neutral Agree Strongly Agree

17. While conversing with new acquaintance, I feel very relaxed.

Strongly Disagree Disagree Neutral Agree Strongly Agree

18. I'm afraid to speak up in conversations.

Strongly Disagree Disagree Neutral Agree Strongly Agree

19. I have no fear of giving a speech.

Strongly Disagree Disagree Neutral Agree Strongly Agree

20. Certain parts of my body feel very tense and rigid while giving a speech.

Strongly Disagree Disagree Neutral Agree Strongly Agree

21. I feel relaxed while giving a speech.

Strongly Disagree Disagree Neutral Agree Strongly Agree

22. My thoughts become confused and jumbled when I am giving a speech.

Strongly Disagree Disagree Neutral Agree Strongly Agree

23. I face the prospect of giving a speech with confidence.

Strongly Disagree Disagree Neutral Agree Strongly Agree

24. While giving a speech, I get so nervous I forget facts I really know.

Strongly Disagree Disagree Neutral Agree Strongly Agree

7. Have you ever participated in *All English All the time*? Y N

8. Do you use e-chalk at your school? Y N

9. How often do you use e-chalk? (Please circle one)

Daily A few times a week Once a month Never

10. Do you have access to computers at your school during Y N

the regular school day?

12. Do you have a job? Y N

13. If you answered yes to question 12, how many hours do you work? _____

Appendix D

IRB Form

FORM B

Application for Review of Research Involving Human Subjects

Institutional Review Board (IRB)

Texas A&M University-Corpus Christi

IRB # _____

Date Received by IRB _____

I. IDENTIFICATION OF PROJECT

A. Principal Investigator (PI) or Co-Principal Investigator (Co-PI)

Laura Hill

317 Country Club Drive

Corpus Christi, TX 78412

(361) 739-1059

Faculty Advisor

Caroline Sherritt

Professor, Educational Administration

College of Education

Faculty Center 213

(361)825-2438

Caroline.sherritt@tamucc.edu

Department/Unit

Department of Education

B. Project Classification

Doctoral Dissertation

C. Title of Project

Finding a Voice in the Digital Classroom: The Effects of
Asynchronous

Discussion Threads on Language Acquisition and Communication
Apprehension among Adult ESOL Students in South Texas

D. Starting Date

April 6, 2009

E. Estimated Completion Date

May 18, 2009

F. External Funding (*if any*)

Not applicable

II. PROJECT OBJECTIVES

Students who are classified as ESL (English as a second language) at the secondary level may face psychological/social factors that prevent participation in class discussion thus inhibiting second language acquisition. The purpose of this study is to determine if asynchronous discussion (ASD) threads enhance the second language acquisition of adult ESOL students. The researcher plans on studying an online language community to determine if ASD improves sentence structure and affects the affective filters of adult language learners. The questions under study are:

Quantitative Research Questions:

1. What are the effects of asynchronous discussion threads on the affective filter of adult language learners?
2. What are the effects of asynchronous discussion threads on sentence style?

Qualitative Research Question

3. What are the perceptions of adult language learners on the effectiveness of asynchronous discussion threads?

III. DESCRIPTION AND SOURCE OF RESEARCH SUBJECTS

Four High Schools in the Corpus Christi Independent School District (King High School, Ray High School, Miller High School, and Moody High School) will participate in an ESL on-line language community. Presently, of the four High Schools, only King High School has participated in the on-line language community.

IV. METHODS AND PROCEDURES

In this experimental study, the ESL students from the four high schools will be randomly assigned to either the treatment group (the group that participates in the on-line language community) or the comparison group. Approximately 40 students will be involved in this study. All students will take the Personal Report of Communication Apprehension (PRCA-24) and the written portion of a practice Texas Assessment of Academic Skills Test (TAKS). The researcher will focus on sentence style for comparison of improvement. The experimental group will participate in online discussions (the independent variable) in addition to regular classroom discussion. The control group will only participate in face-to-face classroom discussion. Sheltered Instruction Observation

Protocol (SIOP) is the ESL model used in all ESL classes in CCISD, so all students will have similar instruction. At the end of the treatment (approximately nine weeks), all students will receive a post test (TAKS writing test) and will take the PRCA-24. The experimental group will complete a survey concerning participation in on-line discussion. Students from the control group will be introduced to the on-line community so as to receive the benefits of such an opportunity.

V. SPECIFIC RISKS AND PROTECTION MEANS

Minimal risk exists in this study. Students might feel a little stress in using ASD if they are unfamiliar with this form of discussion. To minimize risks, the researcher will give a presentation about ASD. At the end of the study, students in the comparison group will be introduced to the online language community so all students will benefit from the ADS. Confidentiality will be ensured concerning any information gathered.

VI. BENEFITS VS RISKS

All students will have the extra opportunity of expressing themselves in an online community. This extra practice does not harm any student but provides, at the very least, an opportunity to practice writing skills.

VII. METHODS FOR OBTAINING “INFORMED CONSENT” FROM SUBJECTS

All students will receive an informed consent form and will be made aware of the confidentiality of their responses. If necessary, The “informed consent” form will be written in the language of the students. These forms will be kept in a locked filing cabinet at King High School.

VIII. QUALIFICATIONS OF THE INVESTIGATOR(S) TO CONDUCT RESEARCH

The principal investigator has twenty years of experience teaching English and has a Masters in English. The principal investigator also has an ESL certification and is trained in Sheltered Instruction Observation Protocol. Furthermore, the principal investigator is certified to be a TELPAS rater as well as a verifier. The Principal Investigator is a doctoral student at Texas A&M University-Corpus Christi and has completed the Human Participant Protections Education for Research Teams on- line course.

IX. FACILITIES AND EQUIPMENT TO BE USED IN THE RESEARCH

The High Schools’ computers will be used. Specifically the computers in the library as well as class room computers will be used. Students will also have the ability to use their own personal computers if they so desire.

X. RESPONSIBILITY OF THE PRINCIPAL/CO-PRINCIPAL INVESTIGATOR(S)

By complying with the policies established by the Institutional Review Board of Texas A & M University-Corpus Christi, the principal investigator subscribe to the principles stated in “The Belmont Report” and standards of professional ethics in all research, development, and related activities involving human subjects under the auspices of Texas A & M University-Corpus Christi. The principal investigator further agrees that:

- A. Approval will be obtained from the Institutional Review Board before making any change in this research project.
- B. Development of any unexpected risks will be immediately reported to the Institutional Review Board.
- C. An annual review and progress report will be completed and submitted when requested by the Institutional Review Board.
- D. Signed informed consent documents will be kept for the duration of the project and for at least three years thereafter at a location approved by the Institutional Review Board.

XI. SIGNATURES

Principal Investigator: Laura Hill_____

Signature _____ Date: _____

Co-Principal

Investigator _____

Signature _____ Date: _____

Student Advisor (if any)

Signature _____ Date: _____

XII. EXPEDITED IRB REVIEW

Research is eligible for expedited review if it involves no more than minimal risk to the subjects, and the only involvement of human subjects will be in one or more of the categories specified below. Also, the IRB may use an expedited review process for minor changes in approved research.

Is expedited review requested? YES NO

If yes, indicate the category (ies) which qualif(ies) the research for expedited review:

Approved: IRB Reviewer (NAME)

Signature _____ Date: _____

XIII. FULL IRB REVIEW

IRB Recommendations:

IRB Chairperson

Signature _____ Date: _____

Appendix E
Letter of Assent

January 22, 2009

Dear Student,

I am asking you for your help in a study to determine if using computers (on-line discussions) will affect writing style. If you agree to be in this study, you will participate in the on-line language community *All English All the Time* through e-chalk. I will give instructions about how to participate in an on-line discussion. You will post three times during the week at your convenience. You do not need to use a computer at home, but you may do so if you like.

There are no risks from this study, but a benefit is that you may experience some improvement in writing essays. A side benefit is that you might discover something new or interesting about yourself and others.

Please talk this over with your parents. Your parents have also been asked to give permission for you to participate in this study. Even if your parents say "yes," you can still decide not to participate. Being in this study is up to you, and no one will be upset if you don't want to do it or change your mind later and want to stop.

You can ask me any questions that you have about the study. If you have a question later that you didn't think of now, you can call me at (361) 994-6900 ext. 132 (during the day) or at (361) 739-1059 (in the evening).

Signing your name at the bottom means that you agree to be in this study. You and your parents will be given a copy of this form after you sign it.

Thank you for your help.

Sincerely,

Mrs. Hill

English Teacher

King High School

Student Name

Student Name (printed)

Date

Guardian's Name

Guardian's Name (printed)

Date