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UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

A STUDY ON THE EFFECTS OF SITUATED
COGNITION ON THE STUDY OF
FOREIGN LANGUAGE

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

By
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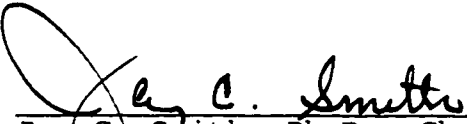
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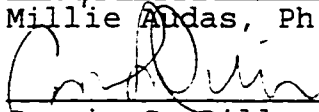
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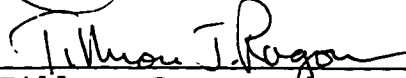
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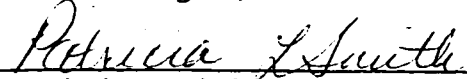
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ABSTRACT

A STUDY OF THE EFFECTS OF SITUATED COGNITION ON THE STUDY OF FOREIGN LANGUAGE

BY DENNIS PAUL DUNHAM

This study examined situated cognition and anchored instruction in the context of foreign language learning. Based upon situated learning models proposed by McLellan (1996) and Thurman(1993), a situated lesson was adapted for foreign language learning and tested.

This quantitative study examined situated learning in a class of international freshmen composition students enrolled at a private American university. The experimental group was taught to write a composition in a situated class. Activities included: problem solving, working in groups, interviewing and collaborative writing. The ANCOVA was applied with the Nelson Reading Test as the covariate. A Recall-protocol scoring template graded by a panel of instructors was used as the instrument. No significant differences were reported. Possibilities outlined for failure to reject the hypothesis included necessity for increase of sample size and length of study. However, both the covariate and the Test of English as Second Language (TOEFL) were found to have a significant relationship with the instrument. These facts and others lead to a discussion and suggestions on how this model could be applied to future studies.

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Last by not least, I dedicate this work to my wife Jan. Whenever she is with me, the sun shines brighter.

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CHAPTER I

INTRODUCTION

Purpose

This study examined effects of instruction designed on the concepts of situated cognition, anchored instruction and contextualized learning in the context of foreign language study. The purpose of this study was to examine differences between treatments and traditional approaches to the acquisition of a second language.

Background of the Problem

For many decades the world had come to the United States for educational and business purposes. Now, however, in order for the United States to continue to compete, it would be necessary for the United States to join the international marketplace on their own boundaries (Boren, 1991). Sheppard, manager of global human resources of GE Medical Systems, said someone who does not have a global outlook and a willingness to tackle an overseas posting is not going to be promoted, period (Hannon, 1994, p. 94). The bad news for Americans, however, was that one in five

workers in the 1980s that were sent abroad were asked to return home early for poor performance (Hannon, 1994). Former Oklahoma Senator Boren stated that there must be a heavier emphasis on international studies and foreign languages (Boren, 1991).

Many foreign governments have stepped up their study of foreign languages. For instance, in Japan, all high school students must have two years of English, and the European Community has declared that all high school graduates must be fluent in two languages (Boren, 1991). The opposite is happening in America. In 77% of U.S. colleges, a bachelors degree could be earned without any language requirements, either from a high school or college (Boren, 1991).

Leaders in business and corporations refer to the lack of foreign language experience as a drawback for graduates entering into the market place (Harley, 1991, p. 47). Centron (1990) global thinking requires that all students study foreign language in the world-wide market place of the twenty-first century. Companies recognize that foreign language experience is important in order to have essential multinational experience and those with multinational experience are promoted to CEOs (Harley, 1991, p. 49).

During the 1980s, a broad expansion of U.S. companies overseas occurred (Basta, 1991). Industries complained that there was a great need for foreign language skills.

And Basta (1991) claimed that those that did study language in college did not receive adequate proficiency (Basta, 1991). Colleges generally stressed grammatical accuracy over speaking skills, and students found that they did not have enough time in the classroom utilizing these teaching methodologies to become communicative in the target language (Basta, 1991). Many educators also stressed the importance of language training because it carried a double benefit (Labich, 1992): the ability to understand another language makes students more competitive in the global market place as it disciplines their mind and makes them receptive to new ideas (Labich, (p. 64).

Alternative methods other than grammar based approaches have been in existence since the 1960s (Charadeau, 1983). The approach which came about in the wake of structural linguistics aimed at presenting language through simulated dialogues. This approach was generally known as the audio-visual method (Charadeau, 1983). The 1970s brought a new kind of approach whereby the concept of linguistic competence was replaced by communicative competence (Charadeau, 1983).

Situated Cognition has received a lot of attention in the field of cognitive science (Kinnaman, 1993, p. 86). This is the concept that learning and thinking are situated. That is, that learning is significantly related not only to

the context in which it occurs, but to the activities surrounding the context (Kinnaman, 1993).

The study of foreign language is said to be more personal than any other subject, and this makes learner involvement critical (Hsu, Chappelle, and Thompson, 1993). Despite the desirability for language research to be placed in the contexts of foreign language learning environments which involve the student, little empirical data exists to support this (Hsu, Chappelle, and Thompson, 1993).

There are a number of second language learning methodologies: Translation, Audio Lingual, Total Immersion, Suggestopedia, The Silent Way, Total Physical Response, and others (Oller, 1984). Each theorist has his or her reason for the unique effectiveness of their technique (Oller (1984). These listed reasons will include: direct feedback, physical actions, attention of student, and inclusion of both sides of the brain (Oller, 1984).

Oller stated that the Silent Way Method, Suggestopedia and The Total Physical Response method were more effective because they make obvious to the student the pragmatic correspondence between utterances in the language and the world of experience (Oller, 1984, p. 5).

There were different theories about the way which first language acquisition was learned. While research has tested the methods against one another, Oller stated that instructors were less interested in finding additional

methods than in finding principles that would provide guidance in discriminating between methods which would produce the best results (Oller, 1984).

This research aims at: (1) examining various foreign language methodologies in light of situated cognition and anchored instruction; and (2) examining teaching curriculum which are situated or anchored. This study then focuses on the problem of how a foreign language curriculum could be situated. An experiment was conducted which compared situated based foreign language activities with non-situated based foreign language activities. An Analysis of Covariance (ANCOVA) was performed and the results analyzed.

Significance of the Study

Little research had been done which examined the effects of linking situated cognition to the study of a second language. This paper had attempted to demonstrate that the Total Physical Response Method (TPR) is situational, but lacks some of the distinguishing characteristics of situated learning described by operates very similarly to a design that might be done by someone setting out to design a plan based on situated cognition.

A future model of language learning designed in light of situated cognition, might start out with simple commands,

such as advocated by Asher (1977), but later be anchored to a situation or an interactive video series where real problem solving, such as described in the Jasper series, takes place. In this kind of scenario, students would solve problems using the target language and seek additional vocabulary structure in order to do so. Hsu, Chapelle, and Thompson (1993), in their work on simulation, envisioned how principles to learning environments might affect the learning of natural language. They discussed how such a learning environment would directly parallel those used for math and logic to allow students to use words, syntactic patterns and meanings to understand and then use them. They said it would be like learning French by using French in France. Students could combine previously learned elements to express themselves and when successful create perlocutions (e.g., receiving train tickets, appropriate food in restaurants, and rooms in hotels (Hsu, Chapelle, and Thompson, 1993, pp. 4-5). Some published success in this specific area, might encourage others to build a practical, implementable curriculum design that is not tied to a particular methodology, but rather a feasible theory of situated cognition.

Hypothesis

There will be no significant difference on adjusted post test composition scores between foreign language

students who received situated based lessons and students who did not receive situated based lessons.

Assumptions

1. Participants in the experimental and control groups had various backgrounds of exposure to English as a Second Language.

2. Some of the students' languages, such as Spanish, may be more linguistically similar to romantic languages. Other Asian students, such as Japanese, may have more problems linguistically than students who speak romantic languages.

Limitations of the Study

The sample for this research study involved thirty five international students studying English in two international freshmen composition classes at Oklahoma City University. The sample represented a wide variety of students from many different countries, and at varied levels of age. Generalizations of the results cannot be made to any other group.

CHAPTER II

REVIEW OF THE LITERATURE

A review of selected literature in the areas of situated cognition, anchored instruction, contextualized learning and theories of second language acquisition was conducted.

This review is divided into three sections: The first section on contextualized learning, gives an overview of definitions and work done in the areas of situated cognition, anchored instruction and contextualized learning. It examines some of the studies that have been done in these areas. The second section on foreign language methodologies examines foreign language learning research as well as various foreign language methodologies. The Total Physical Response Method is discussed as a possible example of the use of situated learning in the teaching of foreign languages. The third section on foreign language testing discusses the challenges inherent in developing an instrument for foreign language research.

Contextualized Learning

Young stated that situated cognition, for the modern educator, provided a challenging redefinition of learning and thinking (Young, 1993). The emphasis on learning is not the storage of knowledge but rather how the learner is able to interact with that knowledge in a meaningful and appropriate manner (Young, 1993). Kumer (1995, p. 33) defined situated cognition as knowledge that is situated in part in the context from which it is acquired. Brown, Collins, & Duguid (1989, p. 33) state that situated learning must take into serious account social interaction and physical activity.

This concept is not new. Nybord (1982) said that learning basically takes place in terms of sensations of many kinds; these sensations are parts of experiences or perceptions. Lave (1988) said that situated learning is unintentional rather than deliberate and described a scenario under which situated learning operates. He said that learning as it normally occurs is first in the activity, context and culture in which it occurs. According to Lave (1988), this contrasts with normal classroom activities which teach that which is abstract and generally out of context. He said the social interaction is a critical component of situated learning. He described situation learning as a community of practice which embodies

certain beliefs and behaviors to be acquired. The beginner moves from the outside of the learning to the center where s/he eventually becomes the expert.

One study which compared situated cognition and traditional instruction in teaching map skills supported situated cognition as more effective against one traditional form of instruction. Map skills were tested after treatment with both traditional teaching approach and situated cognition. The control group received a lecture on map skills. The experimental group had a more situated lesson where they received no lecture but were asked to orally solve problems regarding the map. It was concluded that the situated cognition approach led to better outcomes on a performance assessment whereby they had to recreate a map. (Griffin, 1992).

Another study which used a video disk lesson on the rules of American football, suggested that the use of situations as an orienting activity facilitates procedural learning (Acuna, 1993). This study concluded that from the point of view of situated cognition, well-designed situated orienting activities can make interactive video disk instruction more effective and engage students' emotions and motivation for learning (Acuna, 1993).

Julian (1994) began his work with the position that education has no theory of learning; instead, those which pass for theories of learning are actually descriptions of

conditions whereby learning takes place. The researcher, in his work, concluded that situated learning is most descriptive of that condition (Julian, 1994).

Damarin (1996, p. 78) wrote that the acceptance of situated theories of cognition indicate a shift from the psychological to the sociological as the knowledge base upon which teaching and learning are theorized and refined.

Damon (1996) stated that:

in contrast to school knowledge, these are wild and independent knowledges, unspoken and unspeakable knowledges, knowledges apprehended but often not articulated. They are knowledges under construction, paradoxical knowledges, knowledges constructed as means of liberation ... (p. 79).

A number of curricula are being designed to promote thinking (Rabinowitz, 1993). They involve that the principle less is more. But the challenge for educators is to provide a motivation for students to explore specific areas of motivation in depth, as well as help students acquire a range of skills and knowledge that will prepare them for lifelong learning. One method that has the potential to do this is anchored instruction (Rabinowitz, 1993).

The concept of anchored instruction originated from the principles of situated cognition (Brown, Collins and Duguid, 1989). This term was coined in 1990 by the Cognition and Technology Group at Vanderbilt (Young, 1993). An illustration served to distinguish between situated learning and anchored instruction: In the case of situated learning, students in a law school course use a real-world case to explain each new aspect of law. These situations can be considered micro-contexts for each specific topic. By contrast, an example of anchored instruction would be to be exposed to a story presented via video, movies or print. The story should be sufficiently rich in context to allow it to be viewed from several perspectives. The Vanderbilt Group would describe these as macro-contexts. They cited the example of using the movie, *Young Sherlock Homes*, to anchor a semester-long investigation of Victorian era history. The students, in their studies, would consistently return to and refer to the anchor (Young, 1993).

Those that support anchored instruction argued that one way to implement anchored instruction would be the use of videos to recreate a learning atmosphere for situated cognition in formal classroom settings (Kumar, 1995). Therefore, the major goal of anchored instruction is to enable students to notice critical features of problem situations and to experience the changes in their perception and understanding of the anchor as they view the situation

from new points of view (Bransford, Sherwood, Hasselbring, Kinzer, and Williams, 1990, p. 135).

Whether the technology used is video or print, in 1990, the Cognition and Technology Group at Vanderbilt proposed macro-texts, i.e. complex situations, that can anchor instruction in subjects across the curriculum (Young, 1993). These complex situations should therefore provide an environment for learning to take place in context. In 1991, The Secretary's Commission on Achieving Necessary Skills summarized: "We believe, after examining the findings of cognitive science, that the most effective way of learning skills is in context, placing learning objectives within a real environment rather than insisting that students first learn in the abstract what they will be expected to apply" (SCANS, 1991, p. 4).

A growing body of evidence indicates that a technology-rich, interactive environment in classrooms enhances learning (Bransford, Goin, Hasselbring, Kinzer, Sherwood and Williams, 1988). One such study by Cline, Omanson, and Marcotte (1995) found that an experimental group of students who used interactive multimedia achieved significantly higher passes than the students in the school district or the state district who did not work with interactive multimedia. Of the 115 students in the program, 89% achieved passes that were awarded when a student passed at least 70% of the objectives. This was compared with 78%

of the students in the district and 73% of the students in the district who passed.

While the study by Cline, Omanson, and Marcotte (1995) refers to the need for a richer learner environment, other educators address the challenges of incorporating a realistic situation into a practical application of situated learning. Situated learning can be anchored to videos, texts, or simulations. The common definition of simulation means to duplicate the essential features or experiences of a task or situation (Thurman, 1993, p. 75). Experiences without instruction, however, may produce unwanted results. Bayman & Mayer (1984) conducted a study whereby subjects learned about a calculator. They concluded that students who learned solely from hands-on experience developed concepts of the calculator that were frequently wrong.

Thurman (1993) believed that in order for instructional simulations to support learning, they would need to promote cognitive processing in such a way that learning is consistent with desired outcomes. He stated that simulations should:

1. Be appropriate for the level of students.
2. Correspond to actual systems.
3. Present only the essential system.
4. Provide only as much detail as is required.
5. Be logical.

6. Be inherently meaningful.
7. Encourage active rather than passive participation.
8. Strive for relative stress-free conditions.

However, the CTGV Group (1996) stated that while computer based simulations can provide effective anchors for instruction, they did not choose to do so because they did not feel they had the collective expertise necessary to create sophisticated computer-based simulations. Secondly, they wanted to create tools that most instructors could handle and most budgets would allow (CTGV (1996). Although some educators such as Berierter (1991), argued that all learning must be situated, other educators such as Smith & Ragan (1996) expressed concern that the desire for virtual experiences might not be cost productive nor deleterious to learning. First hand learning could be an unproductive use of time (Smith & Ragan, 1996). Young (1993) cites four critical tasks involved in instructional design for situated learning:

1. There should be a selection of the generator set: the set of situations that will afford the acquisition of knowledge that the teachers wishes the students to acquire.

2. There should be a provision for the necessary scaffolding for students to be able to operate within the situation while the instructor operates as coach.
3. There should be a provision for processes for the instructor to be able to track progress and interact knowledgeably and collaboratively with the students as individuals or as a group.
4. There should be a provision for a form of assessment to measure the students progression towards desired outcomes.

Rabinozitz (1993) stated that while there were many advances to instruction which would integrate situated cognition with curriculum, there were disadvantages as well. The most notable one was that it placed a heavy burden on teachers (Rabinowitz, 1993; p. 12). There are ways, however, to get around this barrier. One approach involves the use of video disks to create environments that could be explored (Rabinowitz, 1993). A review of situated cognition and anchored instruction would not be complete without some discussion of the *Jasper Series*. In general, this series involves viewing 15 minutes segments which features a character named Jasper who encountered various problems. In the second episode, *Rescue at Boones Meadow*, the characters learn a little about flying an airplane, including fuel

capacity, speed, payload limits, etc. Later, the characters discover a wounded eagle and must rescue it. What was the fastest way to do it became the problem (CTGV, 1992).

Students are challenged to list all the things necessary in order to develop a workable plan for the problem resolution. Many skills were required including mathematics and physics. When students were asked why they were performing various mathematics, they refer to the Jasper context for justification. For example, when students were asked why they were performing the calculation 65×2 (65 miles from the veterinarians to the injured eagle times 2 for a round trip), one student, who was described as being a low achiever responded, "to make sure they can get the injured eagle to the vet" (CTGV, 1991).

McClellan (1996, p. 6) wrote that the view of knowledge as situated has important implications for the understanding of learning, of the design of instructional experiences, and activities. She listed the key components of the situated learning model as "stories, reflection, cognitive apprenticeship, collaboration, coaching, multiple practice, articulation of learning skills, and technology" (McClellan, 1996, p. 7).

CTVG (1991) in their emphasis of anchored instruction, encouraged generative learning. This was the antithesis to passive learning. (CTGV, 1992). In order for concepts to be learned, they must be used generatively, that is, they have

to be linked to other information (Resnick & Resnick, 1992, p. 4). CTGV said that research has suggested that knowledge that is not acquired and used generatively tends to become inert knowledge; that is, knowledge that is not used spontaneously in situations where it might be relevant to do so. CTGV cited studies from Bransford et al. (1986); Gick & Holyoak (1980, 1983); Scardamalia & Bereiter (1985) to strengthen its assertion.

Tripp (1996) did not agree that what the Vanderbilt Group was doing was situated learning. Although Tripp (1996) acknowledged that every situation is a situated learning situation, he asserted that the Vanderbilt group believed that theirs was situated learning because their situations were anchored in the Jasper videos. Tripp believed that the situated cognition position is that knowledge is socially situated in the world, and the Jasper videos are not in the world. Tripp (1996) stated that "if this were situated learning, one would actually enter the situation and observe the master as he works out a solution. One would not pose the dilemma and then ask the students to work it out" (p. 163).

Several researchers, however, disagreed with Tripp (Moore, Lin, Schwartz, Petrosino, Hickey, Campbell, and the Cognition and Technology Group. 1996. P. 214). They wrote that the situated perspective is that much can be discovered about the nature of learning by investigating situations in

which individuals can be effective problem solvers. These researchers doubted Tripp's claims as being oversimplified, They (Moore, Lin, Schwartz, Petrosino, Hickey, Campbell and the Cognition and Technology Group. 1996) wrote:

Situativity researchers are not advocating that all school learning be overthrown in favor of street learning. Instead, they are suggesting that the structure of school activity be reconsidered in light of the information gained in the analysis of non-school activities (p. 21).

While disagreements among educators exist on a true definition of situated learning, Schlager, Poirier, and Means summarized the work of Brown & Duguid (1993), Scardamalia, Bereiter, McLean, Swallow, & Woodruff (1989), and others in a discussion of a model of situated learning in the classroom. In this model, situated learning framework stressed the importance of collaborative learning experiences in the context of authentic tasks. The teacher is no longer the source of knowledge but a contributor. McClellan (1996) described the role of the instructor as a coach. Scaffolding is necessary to allow the instructor to support students work on meaningful tasks by providing hints while the student concentrates on other components (Schlager, Poirier, and Means (1996).

McLellan (1996) stated that situated learning has great potential but that more and more research needs to be carried out. Some educators such as Volpe (1994) believe that the study of foreign language deserves more attention by researchers.

L2 (L2 is the term used in regard to linguistics to refer to 2nd language acquisitions, L1 refers to first language i.e. native language acquisition) has by tradition been taught as a general knowledge subject. As language is a personal experience and as some L2 methodologies make use of experiential language methodologies, the study of situated cognition could reveal new insights into how a language is being taught or how it should be learned.

Foreign language is a unique discipline among the other subjects a student might take in school. Whereas school might offer some students first experience with math or history, students who take a second language have already mastered a first language. However, in the case of their first language, the instructors were usually family members. The methodology that would have to be used to imitate the methodology for the first language would have to be one of simulation (Carlton, 1987). The one-year-old is told to lie down, and if s/he does not, s/he is gently placed on his/her back. After a few repetitions of lie down, followed by the experience of lying down, the one year old will begin to understand this phrase. Traditionally, second languages

have not been taught this way. They are generally textbook driven and learned in the context of translation, drills and exercises (Carlton, 1987).

There is very little research to support the use of situated cognition or anchored instruction in the context of foreign language learning. Hsu, Chapelle, and Thompson, (1993), however, did some work in the area of simulations or what they called non-illocutionary natural language learning environments. They called for natural language learning environments where students would participate in environments where they 1) explore concepts and produce models, 2) test problem solutions, and 3) use active rather than passive learning strategies. They stressed the importance of further research:

Language, more than other any other subject area, is personal, making learner involvement crucial. Despite the theoretical desirability of using principles of learning environments for second language study, little empirical data exists to document how second-language students work in such environments. These data are crucial because the justification for use of learning environments rests on the assumption that students will participate, actively making and testing hypotheses and exploring (p. 8).

Hsu, Chapelle, and Thompson, (1993) worked with three ESL writing classes at IOWA State University. They asked the students to attend a computer lab where Computer Assisted Language Learning software was available. The purpose of the study was to provide an exploratory learning environment in the sense that their English utterances were interpreted by the computer and provided feedback so that the student could realize that their intentions may be seen as distinct from what they said. Attitude scales, were used to assess students attitudes toward use of computers, language learning, CALL and the ESL program. Results showed a weak, but statistically significant correlation between exploration and attitude toward CALL in general (Hsu, Chapelle, Thompson, 1993).

Volpe (1994), who did research at Vanderbilt University worked with anchored instruction in relation to foreign language reading anchored to visual stimuli and other basic foreign language skills anchored to visual stimuli, i.e. foreign film. In both cases she found students acquired more information when the learning was anchored.

There are a few methodologies in current use which match some of the characteristics of situated learning described in this paper. The next section will examine some in brief and highlight the Total Physical Response Method. It is this writer's opinion that this methodology, in its

primary levels, meets much of the criteria for situated cognition previously mentioned, and is a useful foreign language approach in which to review.

Foreign Language Methodologies

This section presents fundamental research in foreign language and explores the Total Physical Response method in detail. This method offers information which may help synthesize the possible implications between situated cognition and foreign language acquisition. When the term "traditional" form of language teaching is referred to, this usually indicates the grammar-translation, direct, or audio lingual approach. This is because of surveys which have stated that these are the top methods being used today.

Maggioli (1994) explained that the focus on grammar-translation is activities which translate back and forth from the target language to the first language. The class is usually conducted in the first language with class exercises which involve students translating textbook stories. Maggioli (1994) wrote that American and European organizations as early as the 1800s were persuaded that the grammar-translation method was unsuccessful. In a 1918 Congress on Modern Languages which took place in Vienna, the grammar-translation method was criticized severely and the adoption of the Direct method was recommended. The Direct method had been developed at the turn of the century and was

the first language method to combine a linguistic theory of the nature of languages and a psychological rationale for teaching it. Following World War II, carefully presented materials prepared by Army linguistics, became known as the Audio-lingual method. Later, B.F. Skinner's work affected the Audio-lingual method with his belief that people learned through trial and error followed by positive reinforcement. (Maggioli, 1994)

One study surveyed organizations which belong to the American Association of Intensive English Programs and the University and College Intensive English Programs. The following ten methodologies were found to be the most often reported in a review of the related literature: 1) Grammar-Translation, 2) Direct, 3) Audiolingual, 4) Cognitive Code, 5) Total Physical Response, 6) Silent Way, 7) Content Based 8) Notional Functional, 9) Community Language Learning, 10) Natural Approach (Eskey, D.E. 1991).

Olliphant (1990) listed a summary of the major theories based upon the works of Krashen & Terrell (1973), Johnson & Johnson (1975), and Asher (1986) which have affected the foreign language classroom:

1. It is important to create a positive atmosphere in the classroom because cognitive learning increases when self-concept improves.

2. Activities which employ multiply senses facilitate memory.
 3. Language Learning is accelerated when the content is interesting and useful.
 4. The major path to language competence is indirect, implicit, subconscious acquisitions via comprehensible input, rather than direct and conscious learning through formal instruction.
 5. Comprehension is the first step in language acquisition.
 6. Movement increases interest, focuses and motivates.
- Lehtonen and Sajavaara (1982) in their study of second language message processing, discussed the top-down/bottom-up dichotomy of the foreign language learner.

"The direction of the information flow in the mind of a foreign language learner as compared to that in the mind of a native speaker is one of the interesting problems." (Lehtonen & Sajavaara, 1982, p. 116). They explained that the foreign language student seems unable to use top-down processing because there is no such knowledge in his or her memory that could automatically generate linguistic predictions. They are forced to resort to higher-level

cognitive problem solving strategies more frequently than the native speaker, which, in turn, consumes cognitive capacity, takes time and results in the breakdown of communication (Lehtonen & Sajavaara, 1981, p. 117).

The study by Lehtonen & Sajavaara might indicate a need for educators to examine more carefully the necessity for an adequate bottom up approach. Although a number of methods establish a strong foundation for L2 learning, one known method which appears to have the design principles of situated cognition is the Total Physical Response Method developed by James Asher. Asher (1977) began to develop his method of learning based upon the notion of "first trial learning and is often associated with learning a foreign language at the beginning to intermediate levels. Asher's original studies claimed that the closer an item in Japanese, Spanish, or Russian is to being internalized on the first exposure, the better should be the retention immediately after learning, and later at intervals of 48 hours, 96 hours and one month (Asher, 1977, pp. 1-10).

Asher described the debate between the Associationists and the Gestaltists. The Gestaltists believed that when learning happened, it occurred in a flash, "Aha, I've got the answer." The Associationists believed that frequency of exposure to associate two items of information was critical (Asher, 1977). Asher stated that while the argument between the two groups had raged for 25 years (as of 1977), it

seemed clear to him that the argument was "specious, because the Associationists used verbal tasks almost exclusively in their learning experiments while the Gestalts used nonverbal tasks such as pictures, patterns, and experiences" (Asher, 1977, p. 11). Asher went on to describe the controversy as a left brain/right brain problem.

The learning model Asher (1977) formulated stated that learning is the reverse of problem solving. Learning, he postulated, means to internalize an existing concept. Problem solving is done when one has to "repair" a flaw that has created a tension (Asher, 1977, pp. 1-14). Once a problem has been internalized, there is what Asher calls "concept constancy." This is the notion that the concept has its own life and resists threat to its existence. The brain therefore resists the introduction of novel concepts, but once the idea is incorporated, the left brain will resist any change to that idea (Asher, 1977, p. 1-15).

Asher's contention is that the most important aspect of learning correctly is to not have interference with previous learning. After several false starts in the lab attempting to teach students Japanese, Asher asked the Japanese instructor to begin giving the students commands. "You say something in Japanese, do the action yourself and we will follow you" (Asher, 1977, pp. 1-19). "So we started with 'Tate' uttered by Shirou as he stood up and we also stood up. Then I motioned for him to direct us to sit down which

he did with 'suware' and we all sat down. 'Again,' I said, 'let's try it again.' So we did. Then I motioned for him to say something in Japanese to get us walking which he did with 'aruke' and we all walked across the room. Then I held up my hand to stop and Shirou said, 'tomare.' Then he said 'maware' and we turned (Asher, 1977, pp. 1-19).

Asher later came to call this method the Total Physical Response Method (TPR). It is important to note that there were no translations or textbooks in its early stages. A typical lesson consists of commands such as "go to the door", "draw a funny face on the blackboard," "Marcy, sit on the table and smile at Bill." The class is a busy time with students hopping up and down and interacting with each other to the commands of the teacher in the target language. This design is consistent with the critical tasks important for a design of situated learning previously discussed in section I (Young, 1993).

1. It has the required generator set, in this case a list of commands which can be that which the instructor wishes the student to learn.
2. There is scaffolding. The commands are logical and build on each other. The instructor demonstrates and then gives commands to students, the final phase of commands (in higher levels) are from student to student

with professor sitting quietly and monitoring (Asher, 1977). The command is repeated.

3. There should be a provision for processes for the instructor to be able to track progress and interact knowledgeably and collaboratively with the students as individuals or as a group.

4. Assessment comes in the form of consistent review whereby the instructor randomly gives the commands to insure that students are listening to the commands and not the sequence. Also to insure that they are not just taking their cues from other students (Asher).

Later research indicated that students participating in the Total Physical Response (TPR) approach were performing better on a reading exam than students participating in a traditional audio-lingual program (Swaffar & Woodruff, 1978). A more recent study also showed that students who were taught by the Total Physical Response method performed better on a listening examination than students who were taught with the audio lingual method (Rashed, 1990). Nevertheless, Asher explained the mystery much differently. He credited the rapid acquisition of language under this method as due to the fact that the learner was immediately able to decipher the meaning of the noise with his body (Asher, 1977).

He also explained that the pattern most consistently followed the acquisition of the first language. That is that children first learn commands, "Tommy, open your mouth" and then after about one to two years of these began to speak them (Asher, 1986). The natural order, therefore, is listening, speaking and then reading and writing. The contrast to this, he pointed out, is the traditional approach to L2 acquisition, which is reading and writing, and then speaking and listening (Asher, 1986).

Asher has practiced his method for many years and it has seen wide use. He has many questions still about how it has enhanced learning. Is it motion? Is it a change in arousal or alertness or is it an increase in believability that comes from personal experience (Asher, 1986)?

This does not, however, suggest a basic first approach. Regarding the Jasper Series, the basics first model had often been suggested by instructors who felt the students were not ready to simulate an experience (CTGV, 1992). In other words, they proposed that the Jasper series should only be used after students acquired basic subconcepts of mathematics and science. CTGV (1992) argued against this suggestion. The basic first model did not provide students with enough opportunities to find and formulate problems on their own (CTGV, 1992, p. 73). The TPR method did not begin with normal basics associated with the student of foreign language, i.e. simple grammar terms, greetings, etc.

(Asher, 1986). It began by putting students in situations where they must depend on the language. At the beginning stages, problem solving came by putting learned concepts in totally new situations. The students must depend on their understanding of the language, and not memorization of the words, to be able to solve the problems presented before them.

Still, research supports TPR in the basic levels, but there is little empirical data to document how second language students work in situations where they must explore texts and produce concepts (Hsu, Chapelle, and Thompson, 1993, p. 8). As Kinnaman said, there are probably several applications that might be suitable for situated cognition (Kinnaman, 1993, p. 86). A situation for language must be realistic, but not so much so that having the experience supersedes the purpose. Certainly operations could be more realistic, but at impossible expense in time requirements. It is perhaps most fundamentally the time problem that makes it ludicrous to imagine a reform in human interactions, activity, and learning that would be based on the elimination of all things not part of direct experience (Smith & Ragan, 1994, p. 3).

Another method which has received a great deal of attention has been Caleb Gattegno's Silent Way Method. This method resembles the TPR approach in many cases except that

speaking is emphasized in the first stage of development with the use of declarative sentences rather than Asher's commands. Gattegno started off by bringing colored rods into class and naming them in the target language. He would then say "This is a rod" and asked the students to say that before going on. Gattegno would usually say the utterance only one time. The student was expected to say it correctly before going on. Gattegno put the pressure on the student to listen and requested the instructor to wait patiently in silence while the student was trying to recall. This is the reason the method is called the Silent Way. Gattegno attributed much of the success of this method to that aspect of the methodology (Gattegno, 1972).

Oller (1984) had noted that the two methods may have something else in common which was largely responsible for their success. "While I respect the explanations offered by Dr. Asher and Professor Gattegno, I believed both these methods worked because they made obvious to the student in the classroom the pragmatic correspondence between utterances in the target language and facts in the world of experience" (Oller, 1984, p. 142).

Oller believed that physical activity to TPR, and silence to the Silent Way may both be incidental. He called for a pragmatic theory where a language curriculum would take on the world of experience. He argues that most of today's texts provide unmotivated reading. "If there is no

conflict, no doubt, no disequilibrium, the text itself will seem unmotivated (Oller, p. 151). He cited the following example taken from English for Today, a text authorized by a committee of the National Council of Teachers of English (1973). In this typical dialogue, Mr. and Mrs. Miller were on a plane and met with a stewardess:

Miss. Yamada: This is my best friend. Her name is Fumako.

Mrs. Miller: She's very pretty. Is she older or younger than you?

Miss. Yamada: She's one year younger.

Mrs. Miller: Aren't you thinner than she is?

Miss Yamada: Yes, I am. Fumiko loves to eat.

Mrs. Miller pats her tummy and says. So do I. I hope it will be time for lunch soon. Oller then presents this question. "Why wouldn't we be apt to write home about this situation? Can't you just see the letter?"

Dear Mom:

Today we learned about Miss Yamada and the Millers. At Mrs. Miller's probing, Miss Yamada admitted that her best friend Futuko is overweight. Mrs. Miller, who also apparently overindulges, was glad it would be lunch time soon. Isn't that interesting? (Oller, p. 152)

Oller believes there are two aspects of organization missing in most curriculums. The first is the lack of structure. The second is the lack of motivation and refers to the lack of well defined reasons for the dialogue taking place. (Oller, 1984).

Foreign Language Testing

Foreign language aptitude is generally known as the amount of skills necessary for successfully learning a foreign language. It involves linguistics skills which include cognitive notions and functions. It essentially is designed to tell the learner how well he/she is equipped to acquire another language. Foreign language achievements tests assess knowledge in relation to specified criteria, i.e. a particular syllabus. Language proficiency is a theoretical construct which assumes that it is possible to distinguish degrees of knowing a language. This is sometimes known as the degree of competence. (Vollmer & Sang, 1983).

In order to compare various methods and language theories, it would be ideal to have a language proficiency exam which is accepted by all. Unfortunately, no such exam exists. If there were such an exam, there would be a widely accepted theory of language aptitude, and there is neither. There are a number of problems associated with measurement. "Which model of behavior should we base our research upon?

Which is appropriate in order to relate the measurement to the assumed level(s) of competence? And how are these different competencies viewed in theoretical terms?"

(Vollmer & Sang, 1983, p. 32).

There are a number of reasons for the confusion. One is that skills such as reading, writing, and speaking are so closely related that separating them from each other is an impossible task. Nevertheless, exams exist which claim to do so. An exam titled "listening comprehension" does not necessarily mean that it is actually measuring listening comprehension (Farhady, 1983).

Research in this field has not yet offered any clearer definition of foreign language ability in theoretical and/or operational terms. "On the contrary, we are faced with two apparently opposing positions as to the nature and dimensionality of competence in a foreign language, each of them claiming to be theoretically plausible In the past, we have seen a number of distinct efforts in developing language proficiency tests for English as a foreign language (ranging from comprehensive test batteries to single measurements). Yet in all these instances the problem of validity of the measures developed remained of somewhat secondary importance." (Vollmer & Sang, 1983, p. 33). Vollmer & Sang conclude that the analysis of language learning processes can be investigated in some detail only if there is concentration on a very small

sample, on individuals as case students. Statements on individual differences, however, require a large population in order to make generalizations. "Both kinds of thought, therefore, do not seem to be easily compatible with one another from the very beginning." (Volmer & Sang, 1983, p. 74).

The determination of the testing instrument was one of the greatest challenges of this research. Traditional assessment strategies (i.e. fill in the blanks and matching) are quickly being proven inadequate as the techniques of instruction becomes more collaborative and situated (Young, 1992, p. 6). Foreign language research, also, faces challenges in the area of testing (Freedman, 1982). According to Aweiss (1993), assessment could be evaluating any dimension of the language. The languages primary dimensions of reading, writing, listening and speaking can also be subdivided into facets such as grammar, comprehension, dialogue, descriptions, etc. Comprehension assessment that seeks to support instructional decision making must consider how the various facets of foreign language may be affecting comprehension performance (Aweiss, 1993). Previously it was thought that if one facet of language, such as pronunciation, was tested and found correct, then the other facets, such as comprehension, was assumed (Venezky, 1984).

Multiple choice exams, which had been the most frequently used test formats (Anderson, 1992), have been criticized because the correct answer can be reached in more than one way without real understanding of the text (Klein-Baley, 1985). There is a great deal of consensus in the L1 and L2 foreign language reading research that the recall of text is the best method for determining the process of comprehension. Analyzing written recall of foreign language text can give the researcher a fair approximation of the way the material has been processed (Aweiss, 1993, p. 12).

This research used a form of testing referred to as dynamic assessment (Aweiss, 1993, p. 4), or protocol analysis (Hayes, 1989). The students in the experimental group wrote a story that had been studied within a situated context. Students in the control group wrote a story which has been studied in a non-situated context. Hayes (1989, p. 69) has stated that protocol analysis was cognitive psychology's most powerful tool for tracking psychological processes. This process allowed the foreign language researcher to detect whether grammar was interfering with communication in the second language, yet it did not focus attention on grammar (Hayes, 1989, p. 200). Recalling can add to this because it allows researchers to get a view of the quantity, quality, and organization of information

gleaned during reading (Winograd, Wixson, and Lipson; 1989, p. 123).

Recall protocol is not without faults, however. It has been criticized for its absence of objective weighting analyzing system, for being time-consuming and for not delineating the different processes and skills involved, such as the effect of memory (Swaffer & Byrnes, 1991). However, Bernhardt (1991, p. 28) states that protocol circumvents the pitfalls associated with multiple choice test items because it does not provide leading cues. Generating recall data constitutes a purer measure of comprehension, uncomplicated by linguistic performance and tester interference (Bernhardt, p. 200).

The method for creating the instrument follows Aweiss (1993) procedure for creating a template for evaluation. The basic procedure was to weigh possible propositions in a text according to their importance on a scale. Importance was determined as to how crucial each factor was in conveying the main points (Aweiss, 1993, p. 16). Because all evidence points to the primary value of retaining high-level propositions and to the decreasing importance of retaining propositions as they become less and less crucial to the overall meaning of the text, propositional weighting such as that delineated by Myer (1973) has become a generally accepted approach (Aweiss).

This approach is similar to the analytic approach of

scoring foreign language samples researched by Gilfert & Harada (1992). This study tested for validity and reliability of the Holistic method of scoring and the Analytical method of scoring. Ten college-age English as a Second Language (ESL) students in the US were asked to write a composition. Twelve ESL teachers graded these compositions with the analytical method and ten other teachers graded these with the holistic method. The results showed that both ratings were very close with a maximum difference of 3 points in a 20-point scale. Gilfert & Harada (1992) also found that the ratings had a high correlation with the college-age students' TOEFL scores. The ESL teachers, in the Gilfert & Harada research, who scored using the Holistic method, were asked to rate each composition with interval scores as one of the best down to one of the weakest. ESL teachers using the Analytical method, were asked to rate each composition according to selected criteria, i.e. sentence structure, grammar, vocabulary, content (p. 18).

Aweiss (1993, pp. 20-22) recommended a scale that represented four levels of cognitive constructive activity involved in comprehension and learning from text: 1) prepropositional, fragmented associations; 2) Knowledge/Details Retelling; 3) Assimilation; and 4) Problem Solving and Integration. Meyer's (1974) recommendation of a scale of one to seven was incorporated into the instrument.

Conclusion

Kinnaman (1993) said that learning occurs through direct experience in the practices of discipline and that advocates of situated cognition links knowing and doing. As an illustration, he cited a case of a child requesting to learn how to play baseball. How odd it would seem if the teacher created a curriculum which allowed the student on to the field only after he had learned all of the facts and rules of baseball. Nevertheless, Kinnaman (1993) urges caution. What is most important is to remember that the future of education depends less on what technology can do than on what we do with technology (Kinnaman, 1993, p. 86).

CHAPTER III

METHODS AND PROCEDURES

Setting and Participants

The study was conducted at a private mid-west university where there are many international students who did not speak English as a first language in their respective native countries. The students were tested upon entering the institution and placed in special International Freshman Composition classes. The students placed in the Freshmen composition classes are at the advanced levels of English as a foreign language study. The foreign students have backgrounds of various countries and different languages. Additionally, most had different initial exposures to the target foreign language (in this case, English). Some had studied it as a subject in High School. Others had first been exposed to the target language in a foreign language institution. A total of 35 students from two such intact classes were subjects for this study. Of the 35 subjects, 6 were from Taiwan; 5 each from Indonesia and Malaysia; 4 from Korea; 3 each from Japan and Singapore; 2 each from China, Morocco, and Nepal; and one each from Ecuador, India, and Ukraine. Chinese, Korean, and Malay

were the most common languages spoken with their parents at home. The mean age of the subjects was 20.6 years and their ages ranged from 16 to 28 years. 60% of the subjects were males. A total of 23 students had taken the TOEFL exam within the previous six months. The mean TOEFL score of the 23 students was 535.43 and the standard deviation was 53.57.

Procedure

The methodology for this experiment was drawn from readings on the Young Sherlock Project and the Jasper Series done by the Cognition and Technology Group at Vanderbilt (CTGV). The situational problem of *Joshua Goes to Mars* was created by this writer for the purpose of this research. The Young Sherlock project was created for fifth grade students to learn language arts and social studies content. In particular, they wanted to help students learn to write interesting stories (CTGV, 1990, p. 2). The movie, The Young Sherlock Holmes was used as the major anchor. The movie generated a number of discussions. The Jasper Series immerses the students in problem solving and attempts to provide opportunities for teacher-guided discovery. Students were encouraged to find information whenever necessary and work in cooperative learning groups (CTGV, 1990, p. 9).

To develop the methodology for the experimental group, the components for Thurmans (1993) definition of

situations, Young's (1993) four critical tasks in situated learning and McClellan's (1996) key components of the situated learning model were examined. It was determined that the objective of the class would be to write a story, so stories would be used in both the experimental and control group. It was further determined that the research should focus on differences formed by the situated aspect of the lesson and not on the familiarity with the story. As a result both the experimental and the control group had a story about Joshua Goes to Mars, but the experimental group dealt with it in a situated approach. The key components of the situated lesson for the experimental group were:

1. Students were presented with the essential elements of the "Joshua goes to Mars problem" which immerses the students in a situation.
2. The problem was resolved in small increments.
3. Resolution of the problem lead to the creation of the story.
4. Students worked collaboratively, first in small groups, then as a class, to solve the problem.
5. Technology was incorporated to assist the students in becoming psychologically immersed in the situation.

6. The instructor acted as a coach and a fellow learner for the solving of the problem, but also as the grammar "master" when needed.

7. The instructor provided the necessary scaffolding for the students to be able to operate.

The key components of the non-situated lesson for the control group were:

1. Students were given the completed "Joshua goes to Mars" in story form.
2. The instructor lead audio-lingual drills regarding grammar.
3. The instructor's role was to act at the source of knowledge.
4. Grammar and lesson objectives were taught as separate units.

The above components were translated into lesson plans. A matrix which describes and compares how these components were used in the experimental and control group is found in Appendix E.

Like the Young Sherlock project, the general purpose of the experimental and control group for this research was to help students learn to write better stories. Grammar points

of past tense and the conditional wish were also presented. The experimental group was given a handout which placed them in the situation of having to solve a problem. (Appendix A). In order to solve the problem, they had to role-play, view a video on Mars, and work together as a team.

In the problem presented to the experimental group, Joshua was going to Mars to live four years. He had to live in a large air bubble, about a half kilometer in diameter with adequate oxygen and water supply. The problem was that he could only bring ten items and five animals. The experimental group broke into small groups and came up with a list. Then that list was compiled as a class activity until the final items were agreed upon. A story was generated collaboratively.

In phase II, the instructor helped the students to describe Johnson's first day. They watched a short video on Mars and also interviewed Joshua from Mars. The students discussed problems Joshua faced. They illustrated his life there and described their illustrations. They argued either for or against certain items which were selected by the group. Grammar exercises were focused on as they came up in the situation. For the exam, they were asked to write a story about Joshua on Mars which was then be scored by the panel of graders.

The control group was presented with a story of Joshua on Mars (Appendix B). The information about Joshua was

provided. Students practiced grammar, reading and writing exercises. They also answered comprehensive questions about the story. They were given the same exam as the experimental group which was evaluated by the same panel of graders. As this researcher taught both classes, the lessons were videotaped to address the fidelity of treatments.

The students had been tested for similar language ability before being placed into the classes. To control for initial differences between the experimental and control groups, the Nelson-Denny Reading Test FORM F (NDRT-F) for college students was administered to all subjects as a pretest and used as a covariate in the data analysis. The post test was a composition test scored holistically. Both classes were taught by the same instructor. The tests were scored separately by a panel of English as a Second Language (ESL) instructors who had taught English as a Second Language for five years or more. To control for possible treatment-wise differences, the instructors were not told which compositions came from the experimental group and which compositions came from the control group. The instructors were specifically told not to discuss their grades with the other instructors before the scores were submitted.

Instruments

Nelson Denny Reading Test as a Covariate Variable

All the subjects were also administered the Nelson Denny Reading Test-Form F as a pretest on the first day of the treatment unit. The mean score and the standard deviation for the NDRT were 43.800 and 24.414 respectively.

Reliability

The Nelson Denny Reading Test is a widely recognized standardized test which produces reliable results. Form F was revised in 1981. Content of the test and statistical data have been periodically updated since the first test in 1929, but the format remains essentially unchanged due to its widespread acceptance (Brown, Fishco, and Hanna (1993)).

Validity

The Nelson Denny Reading Test was chosen because it is a well known test of English and because it can be administered in a short period of time. Because the intact groups were enrolled in university studies, it was important to insure that most of the time spent doing this research was relevant. Long testing instruments, such as the TOEFL, would have created an unnecessary burden on the students time. The Teaching of English as a Foreign Language (TOEFL)

is a widely accepted test which measures English as Second Language ability, but generally takes two and a half hours to administer. One correlation study between TOEFL and the NDRT produced $r = .49$ ($p < .05$) (Perkins & Pharis, 1980, p. 164). The authors concluded that this research showed that the TOEFL scores were moderately related to the NDRT (Perkins & Pharis, 1980, p. 165). As the NDRT can be given in a 50 minute class period, it was chosen as a practical covariate. A total of twenty-three subjects had taken their TOEFL test within the past six months as part of the requirements for international admission to a United States institution of higher education. The mean TOEFL score was reported as 535.435 with a standard deviation of 53.578. Twelve of them were in the experimental group and eleven in the control group.

Those scores were correlated with the NDRT using the Pearson r . The results were $r = .48$ ($p < .06$). More notable is the $r = .648$ ($p < .02$) relationship between NDRT and the recall-protocol scoring template used as an instrument. This significant correlation gives further support for the use of the Nelson Denny Reading Test as a valid and practical covariate for the purposes of leveling students in foreign language research involving English as a Second Language students.

TABLE I
CORRELATION BETWEEN NDRT AND TOEFL

	TOEFL	p-value
NDRT	0.480 ($\underline{n}=23$)	0.061

Pearson r was 0.480 as shown in Table I. The p-value of 0.061 provided evidence that the relationship between NDRT and TOEFL was not significant.

The Post Test-the Recall-Protocol
Scoring Template

As stated in the review of the literature, one of the greatest challenges in studying foreign language methodologies is selection of an appropriate instrument. An instrument which favors grammar, for example, could easily bias results to support the Audio Lingual method. An instrument for this would focus on Cloze type testing (similar to fill in the blanks) which focuses on grammar. An instrument which favors situations would bias results in the other direction. The Total Physical Response method primarily uses commands and therefore the test would reflect

the use of commands. However, this kind of test would be inappropriate in other classes which did not stress commands.

As a result, a more holistic evaluation (i.e., a single score which represents the overall impression created by the sample) was explored. This recall-protocol scoring template was adopted because of its analytical framework (i.e. separate scores for a number of different organizational features of the instrument). As this instrument was adapted for the purposes of this research, it is important to analyze its validity, reliability and practicality (Gronlund & Linn, 1990, p. 103).

Reliability

Repetition of the use of this instrument is necessary to establish internal consistency of this instrument. However, as this instrument was scored by five graders, interrater reliability was reported.

The instrument used for both the control group and the experimental group to determine the score for the compositions is presented in Appendix C. Following instruction, both the experimental group and the control group wrote a composition based on the story which they had studied in class. All of the compositions were graded by five ESL instructors who had taught five years or more in teaching English as a Second Language setting. The

compositions were given in random order. All the instructors were presented with the directions for scoring the compositions (Appendix C). The students mean scores from these instructors were used for data analysis. Additionally, these scores generated by the instructors were tested for interrater reliability.

As the recall-protocol scoring template is a holistic instrument, it requires some judgment on the part of the reader. One way of examining reliability would be to search for relationship between the graders themselves. One educator (Carlton, 1988) suggested that the scores of two graders are typically added together to form the single holistic score. In this research, five graders were chosen. As previously discussed (Table II), all relativity between the graders were statistically significant. However, an examination of the demographic characteristics of the graders provided meaningful information towards what attributes of graders support more reliable outcomes. At this, an analysis of the characteristics of the five were examined for similarities and differences. The summary of these characteristics are presented in Table II. An examination of the profile of the instructors revealed that they had many similar characteristics. The following observations were made:

Instructors 1, 2, and 3 had the greatest number of years of teaching English as a Second Language.

TABLE II
SUMMARY OF CHARACTERISTICS OF GRADERS

Reader	Characteristics
#1	20 years teaching at ELS; 2 years elsewhere; Masters Degree in TESOL; Special Training Numerous professional presentations; Does not speak a foreign language.
#2	7 years teaching at ELS; 25 years elsewhere; Masters Degree in TESOL; Special Training Numerous professional presentations; Speaks a foreign language.
#3	9 years teaching at ELS; 5 years elsewhere; Masters Degree in TESOL; No special Training; Two professional presentations; Speaks a foreign language.
#4	6 years teaching at ELS; 0 years elsewhere; Not yet completed Masters Degree in TESOL; Special Training; One professional presentation; Speaks a foreign language.
#5	8 years teaching at ELS; 4 years elsewhere; Not yet completed Masters Degree in TESOL; Special Training; Three professional presentations; Speaks a foreign language.

All five instructors had established professionalism in their field. Instructors 1, 2, and 3 had

Masters degrees in TESOL. Only instructor 1 did not speak a foreign language.

As indicated above, the recall-protocol scoring template indicated some degree of validity in relationship to TOEFL.

Validity

One way to test concurrent validity is to examine its relationship with another known valid instrument. In this study, most of the students in the sample had taken the TOEFL test. By administering the Pearson r , it was determined that there was a significant relationship ($r=.658$; $p < .002$).

TABLE III
CORRELATION BETWEEN COMPOSITION
SCORE AND TOEFL

	TOEFL	p-value
SCORE	0.659 ($n=23$)	0.002

Table III presents the correlation matrix for TOEFL and composition score. The mean composition score ($n=35$) and TOEFL ($n=23$) scores for all the students were 21.326 and 535.435 respectively. The results of the Pearson r indicated that the relationship between the composition score and TOEFL was significant ($r=.659$; $p < 0.01$).

Statistical Analysis

Since the classes were intact groups, it was not possible to include randomization in the experiment. The Quasi-experimental nonequivalent control-group design which is one of the most widely used quasi-experimental designs was adopted for the study (Borg and Gall, 1989, p. 690). The Analysis of Covariance (ANCOVA) was used to statistically control for possible initial differences between the experimental and control groups.

The ANCOVA had been chosen particularly because of its ability to adjust for initial differences between the experimental and control groups (Borg and Gall, 1989). The effect is to make the two groups equal with respect to one or more control variables. In this case, although the foreign language students had been placed in the classes through external testing and interviewing, it was necessary to have some relevant score which could be used as a pretest

to control for initial differences. In this case, the preferred method is analysis of covariance in which the posttest means are compared using the pretest scores as a covariate (Borg and Gall, 1989). The covariate used was the Nelson-Denny Reading Test (NDRT) which is a widely used test to compare achievement levels of students.

This kind of design is especially important considering the many extraneous variables described previously which could weaken the conclusions. The main threat to the internal validity (Borg & Gall, 1989, p. 692) of nonequivalent control-group experiments is the possibility that significant differences may be found because of initial differences in the two groups rather than the effect of the treatment. Researchers often use the wrong statistics to analyze non-equivalent control groups by doing a t-test to compare the pretest and posttest means of the experimental group and then another t-test to compare the means of the control group (Borg & Gall, 1989).

In the experiment described in this paper, the dependent variable is the mean score derived from the composition exams. The covariate variable is the score derived from the Nelson-Denny Reading Test FORM F (NDRT-F). The analysis of covariance would adjust the composition score means on the basis of the covariate (NDRT-F score) and then compare these adjusted composition score means for significant difference (Kerlinger, 1964, p. 347).

Kerlinger (1964) wrote that it is possible for the covariate and dependent variables to be obtained by different measuring instruments. Even if the covariate scores were equal, it would be a mistake to disregard them. The use of the covariate data within an analysis of covariance would provide a more powerful (sensitive) statistical analysis than would the analysis of the final exam data with the covariate data omitted (Kerlinger, 1964, p. 347). As a small sample size and the use of intact groups constituted two limitations of this study, the more sensitive ANCOVA was the preferred method of statistical analysis.

CHAPTER IV

PRESENTATION OF RESULTS

Introduction

The purpose of this study was to examine the relationship between situated based foreign language curriculum and non-situated based foreign language curriculum. Subjects for the study were thirty-five students from thirteen different countries who were enrolled in two special International Freshmen Composition classes in an urban private mid-western university in the Spring of 1997. One class ($n=20$) was designated as the experimental group and the second class ($n=15$) was the control group.

For the purpose of this study, the two classes remained as intact groups, and to control for initial differences between the groups, the total score from the NDRT-F, which was administered to the subjects as a pretest, was used as a covariate in the data analysis. All the subjects were asked to write a composition each for the posttest, and the essays were graded independently by a panel of five ESL instructors using a scoring template modified by the researcher. To control for treatment-wise effects in scoring, the graders

were "blind" to the fact on whether a composition was from the experimental or the control group.

Testing of Hypothesis

One hypothesis was evaluated in this investigation. An alpha level of 0.01 was selected as the level of confidence.

Hypothesis:

It was hypothesized that there would be no significant difference on adjusted post test scores between foreign language students who have received situated based lessons and students who have not received situated based lessons.

TABLE IV
ANCOVA SUMMARY TABLE FOR METHOD
WITH NDRT AS THE COVARIATE

Source	SS	df	MS	F	p
Method	14.405	1	14.405	0.466	0.500
NDRT	761.436	1	761.436	24.64	0.000
Error	988.756	32	30.899		

The mean score for the experimental group ($n=20$) was 21.960 ($sd = 6.928$) and the control group ($n=15$) was 20.480

(sd = 7.738). To control for initial differences between the experimental and control groups, an Analysis of Covariance or ANCOVA was used to test for differences between the group means. Table IV presents the ANCOVA summary. The results indicated that there was insufficient evidence to reject the null hypothesis ($F = 0.466$; $p > 0.01$). Therefore, it was concluded that there was no significant difference on the posttest scores between foreign language students who have received situated based lessons and students who have not received situated based lessons.

Post-Hoc Results

The mean composition scores and standard deviations for the five graders were 21.600; 8.218 (G1), 22.171; 6.780 (G2), 22.000; 8.516 (G3), 25.857; 8.171 (G4), and 15.000; 8.915 (G5). A Pearson r test was carried out using a microcomputer statistical package. Table V shows a correlation matrix for the obtained composition scores as graded by the five ESL graders or instructors. All the five correlation coefficients were significant at the 0.01 level. The average correlation coefficient among the five graders was .742. G2 and G4 had the highest correlation ($r=.888$) while G1 and G5 had the lowest correlation ($r=.540$).

TABLE V
CORRELATION MATRIX FOR COMPOSITION
SCORES BY GRADER

	G1	G2	G3	G4
G1				
G2	.773*			
G3	.811*	.842*		
G4	.763*	.888*	.844*	
G5	.540*	.611*	.627*	.721*

* $p < 0.01$

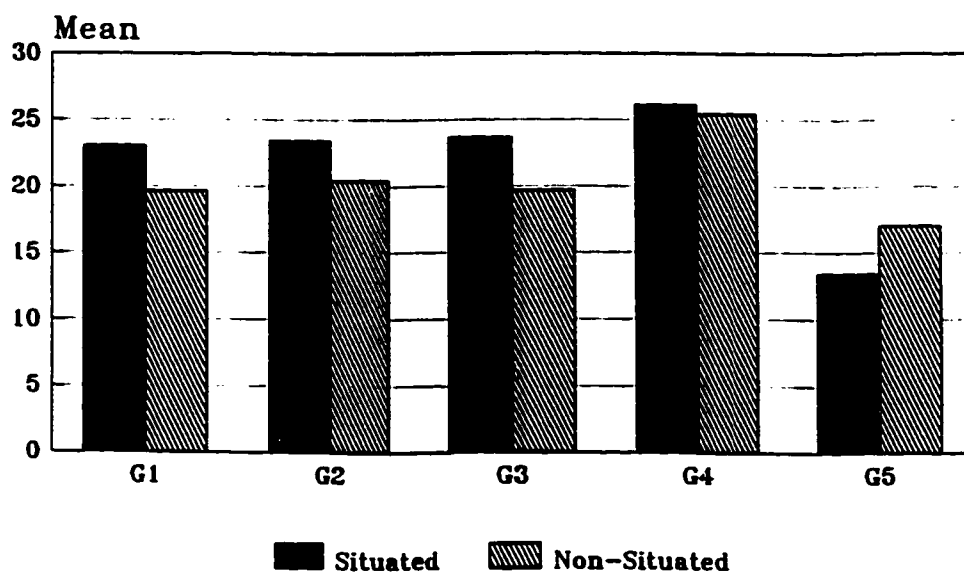


Figure 1. Subjects' Scores
By Grader and Method

The scores and attributes of the five graders were summarized in Appendix I. The mean scores for the composition scores by treatment group for the five graders were presented in Figure I. An examination of Figure 1 indicated that grader #4 had relatively higher scores than the other four graders. Grader #5 had the lowest scores. G1, G2, G3, and G4 awarded higher scores for the experimental group than the control group. The three graders most consistent were G1, G2, and G3.

CHAPTER V

SUMMARY, DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

Summary

This summary has been based on the finding of the data presented in Chapter Four. Three questions generated to guide the summary are:

1. Does a situated based lesson have a positive effect on the study of foreign language.
2. Is a recall-protocol scoring template a reliable instrument to use for foreign language composition research?

Discussion

The data obtained from the sample used in this study failed to reject the null hypothesis that there was no significant difference on composition scores between foreign students who have received situated based lessons and those who have not received situated based lessons. As one important aspect of research is to be able to make recommendations for future research, it is important to be

able to examine various facets of this research. The presuppositions for acceptance of the hypothesis can be explored by the generation of the following two questions:

1. Are these findings consistent with other research done in this subject area?
2. Are there weaknesses in the design, that, if corrected, might show statistical significant difference?

The review of the literature, especially Kinnaman (1993), and Hsu, Chapele, and Thompson (1993), showed support of situated cognition in numerous areas of study. Although no research projects were found to meet the exact criteria of this research, Volpe (1994) has done work with foreign language in light of anchored instruction which have shown positive results. However, one major difference in this work as opposed to others cited is that the students in this work are more advanced. That is, the students are at the higher levels of language whereas much of the work mentioned in the review of the literature, such as the Total Physical Response, was studied at the lower ability levels. The assumption that this work is inconsistent with other research is therefore only cautiously put forth because of this variable. This aspect must be considered when making recommendations for future studies.

The second question regarding the design of the research is the most relevant to explore. A sound analysis of the strengths and weakness of this design are necessary in order to provide criteria for future research.

ANCOVA as a Research Design

The ANCOVA was chosen for statistical analysis because of its ability to adjust for initial differences between the groups on some relevant covariate variable. The covariate was necessary to control for initial differences which is critical when considering that foreign language students have various levels of exposure to languages. The t-test therefore was ruled out because it does not adjust for initial differences between the groups. Analysis of Covariance (ANCOVA) was used in the data analysis and the results were presented in Table I. There were no significant differences between the situated group and the non-situated group.

The Recall-Protocol scoring template as an instrument

The section on The Recall-Protocol Scoring Template reported on validity and reliability of the instrument. Concurrent validity was examined in relationship with the TOEFL exam found to be significant ($r=.658$; $p<.002$). Interrater reliability was reported in chapter IV. All five correlation coefficients were significant at the 0.01

level. with the average correlation coefficient among the five graders as .742.

One other important aspect of the instrument would be the examination of the practicality of the instrument. This is explored by examining such characteristics of the test as duration, grading, cost, and time (Gronlund & Linn, 1990, p.101). The grading of the instrument is the most difficult aspect of the examination because it involves several graders who must also be paid for their work. However, from the students point of view, it is only a 50 minute test which can be administered in one sitting. As one of the main challenges in research is making efficient use of students' time, the duration of the test would be a more important consideration than how quickly it could be graded. In this regard, the test could be regarded as practical.

Sample Size as a Variable

The students of this study were freshmen students enrolled in international composition classes at Oklahoma City University. The sample size was reduced because there were only two classes available during the time frame taught. Additionally, although all students agreed to be participants in the experiment, several students were absent either during the administration of the Nelson Denny Reading

Test or the final composition. This reduced the final sample size to 35 students (Group A: $n=20$; Group B: $n=15$). Lack of having a larger sample size hindered further internal exploration of the data. For example, it would have been helpful to have looked at the differences in scoring between Chinese and East Indian students. However, the small sample size did not support small subgroup samples such as these for data transformation. It should be emphasized, however, that although a larger sample size would have increased the power, it would not necessarily have assured a significant difference.

The Length of Time as a Variable

As previously discussed, the students enrolled in a class in which they would receive a grade. One of the determining factors had to be a consideration of the students' needs to complete the objectives of the class. In a discussion this writer had with the professors of these classes, it was determined that the goals of this research would be compatible with International Composition I objectives. However, only two weeks of classes were available for research. Although this was longer than Volpe's research (Volpe, 1993), who kept exposures to about an hour, it is possible that an even longer period of time would have provided more confidence in the findings.

The Methodology of the Experimental Group as a Variable

Construction of the simulation involved for the experimental group followed the directions outlined by researchers in the review of the literature, especially according to Hsu, Chapelle, and Thomson, (1993). In their work in the area of simulations, they called for environments where students would: 1) explore concepts and produce models, 2) test problem solutions, 3) use active rather than passive learning strategies

The methodology used in the experimental group is described in Chapter III of this study entitled setting. Although it meets the criteria, some possible suggestions for revisions are made in the recommendations section of this chapter.

Conclusions

From the results of the data, the following conclusions were derived:

1. The data from this research did not support a situated learning environment over traditional, i.e. audio lingual method environment in the study of English as a Second Language.

2. The recall-protocol scoring template was used as an instrument. The Pearson r was performed on the five scores of the instructors who evaluated the instrument and all comparisons showed a significant relationship.

3. The attributes of the first three instructors which showed the most reliable grading were: 1) a Masters in TESOL and 2) longer number of years of teaching English as a Second Language. All three had at least 12 years of teaching and even grader 5, who had the lowest Pearson r score, showed a significant relationship.

4. The learning of foreign language is a long term process of which the progress is difficult to measure. This may explain why there is little research in this area. Nevertheless, if situated cognition is a preferable method of teaching foreign language, six hours of class time may be insufficient.

5. Scores between the Nelson-Denny Reading Test and the recall-protocol scoring template revealed a .648 ($p < .002$) correlation. This supports using the Nelson-Denny Reading Test as a covariate for this study.

Implications

The underlying premise of this research was that the acquiring of foreign language was best done in a classroom

environment that was situated. Although the data failed to support this, the results of the study have produced some relevant implications for further study.

First, it is recognized that confidence in this research would best be supported by lengthening the classroom time. However, the need for more time has the effect of reducing the available sample of students in practical classroom situations. This is because foreign language students are usually enrolled in courses for which alteration of the entire course for research purposes would be met with objections by instructors and supervisors.

One of the greatest challenges in foreign language research is a suitable instrument. The findings in this research support the recall-protocol scoring template for foreign language research

The present study has limitations. First, the design was quasi-experimental and the sample was not large enough to permit generalizations of the findings beyond the population of students selected.

Baring the limitations suggested above, this study has the potential of providing a practical framework for the further study of foreign language. Future studies may show that situated learning, especially at the beginning levels, offers advantages over non-situated learning in the study of foreign language. But in order to meet the challenges

described in Chapter I of teaching foreign languages in education institutions, further research should be done.

Recommendations

In consideration of the results and conclusions within the limitations imparted by this study, the following recommendations appear justified:

1. This study should be repeated but with a greater sample of students and a longer duration of class time. Since the greatest impediment of this is the reality that most intact classes would have resistance to deviations from curriculum and experiments on students, extra curricular classes could be an alternative. Assembling these students could be by volunteerism or by paying them to attend. Both solutions immediately eliminate the possibility of a pure experimental study. Also, volunteerism is likely to bring irregular attendance, since many students are motivated by grades. Paying the students could solve the problems of length of time in a sample study, but may fill the sample with students whose characteristics are not typical of a general population. Still, even in this setting, findings which show significant difference could support a proposal to an institution to allow the use of situated learning in a few classes for experimental research. As this might be

expensive, i.e. training of teachers, special materials, etc., grant funding could be sought.

2. The research could be repeated under the guidelines mentioned regarding larger sample and longer duration. It is possible that experimentation at lower levels of foreign language ability may show a stronger difference. The challenge for the beginning student would be to get them to understand the problem. However, the instructor could supplement Joshua goes to Mars story with pictures and charts. Students could also be allowed to use their own language dictionaries to generate words outside their vocabulary. As beginning students are better adept at first person usage, the story could be changed to be more personal and the posttest could be a diary.

3. Variables used in this research design could be strengthened with further research. The Nelson-Denny Reading Test could be given to a large population of students who also take the TOEFL and perhaps another exam, such as the Michigan English Placement test. This might give stronger support for using the Nelson-Denny Reading Test as a covariate.

4. The greatest challenge of comparing methodologies in foreign language instruction is the instrument. Reliability data could be collected for the recall-protocol template

used for this research by giving a larger sample of instructors duplicate compositions to grade. The written survey of the instructors used in this research (Appendix I) could also be expanded and used to search for relevant characteristics of reliable graders. Another aspect of this same research could be to study the effect of training on the reliability of grading.

5. The control group was given the complete story of "Joshua on Mars." It is possible that recall had an effect on the control group and that removal or modification of this story might affect the results. It should be emphasized, however, that complete removal of some of the key elements of the story might provide an unfair advantage over the experimental group. As the students in the experimental group would be more familiar with the vocabulary, it is possible that it would make the current exam unfair. Although stories are an essential part of situated cognition criteria, one can also expect to find them in most writing curriculums which are non-situated. However, the story supplied to the control group might be rewritten so that it is markedly different, but still includes the necessary vocabulary and background to prepare students for the exam.

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APPENDIX A
ASSIGNMENT FOR EXPERIMENTAL GROUP

Joshua goes to Mars

Joshua's wildest dream had come true. He had been chosen to go to Mars. This was both the culmination and fulfillment of years of hard work tempered only by hope. Since he was a little boy, he had been a fan of the Red Planet. He received his first telescope when he was ten, his second when he was twelve and finally, when he was 16, He had saved enough money to have a professional 18 inch, rotating telescope in his back yard.

He generally kept it aimed at Mars.

He was fascinated by its so called canals; by its possibilities of frozen oceans and even microscopic life. He had no doubt that it was a dead planet now. But was it once full of life? Could it be full of life again?

He had later joined the Air Force for only one reason. He knew that was the most direct way to becoming an astronaut. After six years of flying for the air force, that dream became a realization as well. He had only one major disappointment. He was not the first to go to Mars. This honor had been reserved for a group of fellow astronauts who traveled the long distance to do one major task. They built an environment that would, hopefully,

provide a means for a single person to live on Mars for two years. It was essentially a huge air bubble which they had nicknamed Tara. Earlier, unmanned explorations of Mars had located an area which had fertile soil, rich enough to grow earths plants, but lacking two essential ingredients- air and water.

Tara was an air bubble that resembled the Astro Dome in size, but it was solidly clear. It was capable of letting the full impact of the sun shine through in a magnified enough form to resemble the power of the Sun on Earth. The only item inside Tara was a water container which had been brought in by a previous unmanned ship. The 6,000 gallon tank would provide someone plenty of water for drinking and irrigation, as long as there weren't a lot of showers. The theory was that someone could grow food and live there for two years. That someone would be Joshua.

There were immediately challenges and decisions for Joshua to make, however. The US government wanted to see how little someone needed to be able to survive. So Joshua was instructed that he could only take ten items, which could also be food items, and five animals. Furthermore, it was explained that a pair of animals could count as two animals. If he asked for a type of seed, however, he would get enough to plant a small crop. If he asked for something like matches, that would be counted as one item, and he would get enough to last for two years. In addition, for

whatever animal he choose, he would get enough food for that animal to last six months. He would have enough food for himself to last only one month. Worst, he was told, he would have to make the trip sleeping in a life support system. He would be unclothed and any article of clothing he chose to wear after he landed, would count as one item.

Your group must decide what ten items and what five animals, Joshua is to carry. When finished, fill this out and return to the instructor.

Items

Animals

APPENDIX B
ASSIGNMENT FOR CONTROL GROUP

Joshua's wildest dream had come true. He had been chosen to go to Mars. This was both the culmination and fulfillment of years of hard work tempered only by hope. Since he was a little boy, he had been a fan of the Red Planet. He received his first telescope when he was ten, his second when he was twelve and finally, when he was 16, he had saved enough money to have a professional 18 inch, rotating telescope in his back yard.

He generally kept it aimed at Mars.

He was fascinated by its so called canals; by its possibilities of frozen oceans and even microscopic life. He had no doubt that it was a dead planet now. But was it once full of life? Could it be full of life again?

He had later joined the Air Force for only one reason. He knew that was the most direct way to becoming an astronaut. After six years of flying for the air force, that dream became a realization as well. He had only one major disappointment. He was not the first to go to Mars. This honor had been reserved for a group of fellow astronauts who traveled the long distance to do one major task.. They built an environment that would, hopefully, provide a means for a single person to live on Mars for two years. It was essentially a huge air bubble which they had nicknamed Tara. Earlier, unmanned explorations of Mars had

located an area which had fertile soil, rich enough to grow earths plants, but lacking two essential ingredients: air and water.

Tara was an air bubble that resembled the Astro Dome in size, but it was solidly clear. It was capable of letting the full impact of the sun shine through in a magnified enough form to resemble the power of the Sun on Earth. The only item inside Tara was a water container which had been brought in by a previous unmanned ship. The 6,000 gallon tank would provide someone plenty of water for drinking and irrigation, as long as there weren't a lot of showers. The theory was that someone could grow food and live there for two years. That someone would be Joshua.

There were immediately challenges and decisions for Joshua to make, however. The US government wanted to see how little someone needed to be able to survive. So Joshua was instructed that he could only take ten items, which could also be food items, and five animals. Furthermore, it was explained that a pair of animals could count as two animals. If he asked for a type of seed, however, he would get enough to plant a small crop. If he asked for something like matches, that would be counted as one item, and he would get enough to last for two years. In addition, for whatever animal he choose, he would get enough food for that animal to last six months. He would have enough food for himself to last only one month. Worst, he was told, he would have to make the trip sleeping in a life support

system. He would be unclothed and any article of clothing he chose to wear after he landed, would count as one item.

Joshua was allowed to get a lot of advice, but in the end, it was his life and he had to make the final decision. He agonized over this for a month. He asked experts, friends and family. Finally, his list was complete. For the items, he chose the following:

- 1) matches
- 2) charcoal
- 3) tent
- 4) bowl
- 5) corn seeds
- 6) green bean seeds
- 7) spade
- 8) Swiss army knife
- 9) bucket
- 10) pair of shorts

For the animals, he chose two chickens, one rooster, one milk goat and a small, friendly dog.

Day One

The trip to Mars took almost one year, but for Joshua, it seemed like a day. He and the animals slept the entire trip. When Joshua woke up, he felt slightly sick to his stomach. He realized that his stomach still contained the

artificial nutrient fluid inside it. He crawled over to a container in the space capsule where he vomited it up. His body ached and he felt chills. He wondered for a moment where he was. Then he remembered and his mind quickly began to fill with questions. How long had he been sleeping? How far had he traveled. What was the date? Then the answers began to come to him. He had crawled! That meant that he was in the grip of gravity. The spaceship had landed. He then crawled to the port and pulled back the round window.

His heart leapt as he looked for the first time at the Mars landscape. For all practical purposes it looked like a desert on Earth, with one huge exception. There was no blue sky. It was a strange feeling for him. The terrain was brightly lit by the Sun. But the sky itself was black and full of stars. Three seemingly identical mountains rose in the distance. He went to the other side of the capsule and saw that the entry to Tara was only a few feet away.

Now he felt the urgency to hurry. He first slipped on the pair of shorts and immediately felt better. It was strange, there was no one to see him, but he felt more comfortable being partially clothed. He moved quickly, taking everything off the spaceship. Soon, all the animals were out and were running excitedly to the edges of Tara. After they calmed down, he fed them and put up the tent. Nighttime fell suddenly. Outside Tara, the temperature fell

from 350 degrees above to 200 below. Inside however, the air bubble acted like the Earth atmosphere, and contained the heat better. Nevertheless, it gradually became uncomfortably cold. Joshua laid down on the ground in the tent. He was glad to have the shorts, but wondered now if he should have asked for a blanket instead. He laid awake for a while pondering this. How would he feel if he did have the shorts? In any case, he wished that he had a blanket. Finally, he slept.

Day Two

The sun appeared smaller in the sky, but evidently the rooster recognized it and, at its first appearance, woke Joshua up. Joshua woke up feeling sore and cold. He knew it would take time for the Sun to warm Tara up again. He fed the animals and named all but the chicken. He hated to get friendly with anyone who would someday be a meal. Today, he would plant his farm. With the spade, he dug rows into the earth. He planted the corn, and the green bean seeds. He used the bucket to carry water to the plants. However, the chickens tried to eat the seeds. He chased them away, but wished he had a fence for the chickens. The dog was running and playing with the chickens who did not appreciate the activity at all. Joshua put the bucket under the goat and milked it. He used a bowl to drink the milk and then

gave some milk to the dog. The milk was good. He was happy he had the goat.

Day Three

Loneliness fell on him as suddenly as the nighttime. He wished that he had someone else with him. How he would like to have someone to talk to. But at least he had Friday, his name for the German Shepherd which stayed close to him. He petted the dog and the dog licked his fingers. He tried not to think of his loneliness.

He saw an egg sitting alone on the ground. He realized that there was no nest for the chickens and wondered if they would ever sit on the egg. Not this egg, anyway, he thought as he made a small fire with the charcoal. Anyway, he made a small fire with the charcoal. Of course he did not have a pan to cook the egg. But he had already thought this through. After cleaning the spade, he cracked the egg on it and put it over the fire. The first attempt worked only so well. The egg burned somewhat and was hard to get off the spade. Perhaps he should have brought a pan instead. But, the question was, instead of what?

Day Four

Joshua realized that waiting and watching for seeds to grow was not exactly exciting. He was bored. He wished he had a book or some paper to write on. He wished he hadn't

chosen shorts. He felt that was stupid to worry about clothes. No one was there to see him. He needed a blanket, or a pan or a book. One of the chickens laid another egg. It was too early to know if it might hatch later. He dug into the ground and tried to make a nest. He put the egg in the new nest. But the chicken did not seem to notice and clearly resented his repeated effort to catch them and place them on the hole. Since Friday had received a stern lesson about chasing the animals, he appeared bored also. But petting Friday was comforting, for both of them. How Joshua wished that he had a book to read.

Day Ten

Today Joshua saw a few seedlings which had sprouted. This was the most exciting thing that had happened to him since the first day. He carved a calendar on the rock. For day five, he drew a picture of a seedling. He decided to mark the calendar every day.

Day Fifteen

He woke up and was greeted with another surprise. One of the chickens was sitting on the egg in the nest he built. He laughed to himself when he thought of what now brought him pleasure. He carved another nest for the other chicken. He considered eating one of the eggs, but he decided to wait. Every day he milked the goat and he and Friday drank

the milk. Friday was always happy and sat close to him. Once when Joshua wasnt looking, he decided to give the rooster a run for him money. However, a few pecks on the head sent Friday wailing and running in circles. The goat stood near Joshua waiting to be fed. Sometimes Joshua tried to pet the goat, but she didnt like to be touched except for milking. Joshua was very glad he had Friday

Day Twenty

The seedlings began to appear but the goat thought they were there expressly to satisfy her appetite. Joshua has nothing to keep the goat from the seedlings. He wished he hadnt brought the shorts and had brought a rope instead. Then he had an idea. he shorts were definitely serving no function purpose. He took his shorts and began the slow tedious job of unraveling them. He used his knife and his teeth. The job itself took him three days, but he was almost disappointed when he finished. However, out of the thread he rewound it into a short but strong rope. He tied the goat to the tent.

First Month

The corn and beans were growing very fast. So was Joshuas boredom. He decided to try to build a house out of rocks he had seen in the earth. He used his knife to try to carve the rocks. But he quickly found that he didnt have

enough tools, and didnt want to wear out his knife. He was growing weary of eggs and milk although he had tried many different ways of cooking them. He found the best way was to put milk on the spade, crack the egg on the spade and then put it in the fire for just a moment. He scraped the egg off the spade with his knife.

Sixth Month

All the food he brought with him was gone but his plan has worked. He has harvested one crop of corn and beans and began immediately to grow another. There was enough for him and the animals. Some of the chickens had hatched and Joshua knew that it was now only be a matter of time before poultry would be added to his diet. The rooster had started attacking him now. So he had a special fantasy about the day that the rooster would become dinner. The goat was still giving milk and of better quality now that she had corn stalks to eat. Joshua counted each day. And each day he wished that he had three more things: an encyclopedia, a diary and a pen. He talked to Friday a lot and taught him many tricks. Sometimes it seemed as though Friday were answering him. Joshua had enough to eat, but was still very bored. He felt that he has a good grip on everything, but prayed daily that he would keep it. He was afraid of losing his mind.

APPENDIX C
TEMPLATE FOR SCORING COMPOSITIONS

Attached you will find the test question which was given to all students. Students were asked to solve a problem and write a story about Joshua on Mars.

Please grade the compositions according to the following five criteria. Each score will be from one to seven, with the highest score being seven and the lowest score one. It is recommended that you look through the compositions before you grade the first one and locate a high scoring composition and a low scoring composition. The five criteria scores will be totaled for the final raw score. It is requested that you do not discuss these scores with anyone else for interpretation as it is important to arrive at your scores based upon these explanations alone.

Criteria

1. Prepositional;/fragmented associations

Numerous fragmented or unrelated sentences would give this a low score. A high score would be given if sentences expressed complete thoughts, the thoughts were related and made sense in the context of the story.

2. Knowledge/Details

The more details the student provides, the higher the value. The details and knowledge exhibited in the story should be logical and parallel the story.

3. Assimilation

A composition full of short choppy sentences, would receive a low score. Compositions which combine sentences or make inferences would deserve a high score.

4. Problem Solving and Integration

Compositions that integrate the information with the students own knowledge would be given a high score. A high score is awarded to students who are either creative and add their own solutions to the problem, or they disagree because of a discrepancy with the story and their personal knowledge.

5. Grammar

A composition with many grammar mistakes would receive a weak score on this section. As students specifically practiced the wish clauses and past tense, proper and additional usage of these functions would increase their score.

APPENDIX D
WRITING A STORY

Please fill out the following information and then
write your story on the attached page.

Name: _____

Country: _____

Native Language: _____

ELS Level: _____

Age: _____

Sex: _____

Your assignment is to write a story about Joshua. In this scenario, however, the items chosen for him to live in the air bubble on Mars are the following:

1. Matches
2. charcoal
3. Swiss army knife
4. corn seeds,
5. pants
6. pot
7. potato seeds
8. book
9. pencils
10. sleeping bag

The animals chosen are:

1. Milk goat
2. chicken
3. cat
4. female rabbit
5. male rabbit

In your story, Joshua has been on Mars for six months.
Write his story.

APPENDIX E

MATRIX FOR COMPARISONS OF TECHNIQUES

Matrix for Comparisons of Techniques used in Experimental and Control Group

Objective	Control Group	Experimental Group
Students will be Able to:	Activities	Activities
1) Write a story which includes an introduction, body, and conclusion.	<p>Students will study a model of a sample story.</p> <p>Activities involved in studying the model will be:</p> <p>Oral:</p> <ol style="list-style-type: none"> 1) Comprehensive questions. I.E. "How long will Joshua live on Mars?" 2) Vocabulary study. I.E. What is an air bubble? 3) Identification of elements of story. I.E. Give examples of concluding sentences: 4) Telling of story: Students will take turns telling elements of the story in class. <p>Writing:</p> <ol style="list-style-type: none"> 1) Students will write questions to the story. They will be collected and answered in a game like activity. 2) Students will take dictation from the story of "Joshua's on Mars" 	<p>Students will create a model of a story.</p> <p>Activities involved in studying the model will be:</p> <p>Oral:</p> <ol style="list-style-type: none"> 1) Introduction to the problem. I.E. Students will be given a handout describing the problem. 2) Small group discussion to solve problem. 3) Collaborative effort of class to arrive at single solution. 4) Students will view video tape on Mars. 5) Students will Collaboratively write a story based on the solutions. 6) Students will interview "Joshua from Mars". <p>Writing:</p> <ol style="list-style-type: none"> 1) Students will individually create "Joshua's sixth month on Mars."
2) Use sentences in the story correctly using the past tense	<p>Activities:</p> <p>Oral:</p> <ol style="list-style-type: none"> 1) Transformation drills. I.E. Students will be 	<p>Activities:</p> <p>Oral:</p> <ol style="list-style-type: none"> 1) Chain-Drill. I.E. Students will tell a story in past

	<p>given sentences in the simple present tense and convert them orally to past tense.</p> <p>2) Utterance/response. I.E. Students will be past tense questions and have to response in the past tense.</p> <p>Writing:</p> <p>1) Transformation. I.E. students will be given sentences in present tense and told to write them in past tense.</p> <p>2) Utterance/response. I.E. Instructor will say questions and students will write answers in the past tense.</p>	<p>tense anchoring it to the Joshua's fifth day on Mars. An individual student will tell the first part and the second student will continue the story and so on.</p> <p>Writing:</p> <p>1) During writing of collaborative story, instructor will focus on past tense verbs as they come up.</p> <p>2) Transformation: Students will ask past tense questions to each other based on the "Joshua" story.</p>
<p>3) Use sentences in the story correctly using the "Wish" clause.</p>	<p>Activities:</p> <p>Oral:</p> <p>1) Transformation. Students will be given sentences in simple present and instructed to transform to a sentence using the "wish" clause. I.E. Instructor: John is sick. Student: I wish John weren't sick.</p> <p>2) Utterance/response. I.E. Instructor: "What do you wish?" Student: "I wish I had a million dollars." Instructor: "What does she wish?" Class: "She wishes she had a million dollars."</p> <p>Writing:</p> <p>Students will be given a picture and must write sentences using the "Wish" clause.</p>	<p>Activities:</p> <p>Oral:</p> <p>1) Sentence generation. After conclusion of story, students will be asked to ask what things Joshua "wishes for." I.E. "Joshua wishes that he had a bicycle."</p> <p>2) Utterance/response. Students ask each other questions orally using the "wish clause." I.E. Student one: "Does Joshua wish he had a blanket?" Student two: "Yes, Joshua wishes he had a blanket."</p> <p>Writing:</p> <p>Students must write a paragraph after the sixth month which explain the things Joshua wishes for.</p>

APPENDIX F
GRADERS SURVEY

Name of Evaluator: _____

Length of time teaching full time at ELS:

Length of time teaching English as a Second language
elsewhere:

If you taught ESL elsewhere, please list institutions:

Length of time teaching in field other than ESL:
(Please describe briefly)

Please list degrees held:

Have you had any other special training for ESL? If so,
please describe.

Have you ever presented at a TESOL Conference? If so, how
many and in what areas did you present?

Please list other languages you speak or have spoken
fluently.

Personal Data:

Sex: _____ Age: _____

APPENDIX G

INFORMED CONSENT FORM

I. Purpose.

Research from this class being conducted at Oklahoma City University is part of research conducted under the auspices of the University of Oklahoma-Norman Campus. This document is to inform you of the purpose of this research and to obtain your permission to participate.

II. Introduction

This research is being conducted by Dennis Dunham, under the sponsorship of Dr. Jay Smith of the University of Oklahoma.

III. Description Of The Study

The overall purpose of Freshman Composition at Oklahoma City University is to teach students to write better. There are many styles and types of writing, but this research will emphasize ways to learn to write better stories. Certain grammar points will also be emphasized. Students will be given handouts and exams.

IV. Potential Risks And Benefits Of Participation

The student will benefit from the experiment in that, whether in the control group or experimental group, they will improve in their ability to write a short story.

The potential risk would be if a student scored low on the composition exam and that would possibly lead to a lower grade in class. This risk is negated by confidentiality of the student's score to the professor who will award the final grade for the class. The tested material will not count towards a student's grade.

Another potential risk would be if the student lost valuable time which they paid for in class. This also is negated by the fact that the objectives of the experiment work towards the same objectives of the class in which the students are enrolled.

V. Subjects Assurances

All participants in this research are on a voluntary basis, refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled, and the subject may discontinue participation at any time without penalty or loss of benefits. This is voluntary and subjects who choose not to participate in the research will be given an opportunity to do other equally beneficial exercises.

Subjects names will be kept confidential and will only be known by Dennis Dunham. Although data will be kept following the defense of this research, this data will be identifiable only as a student number. The existing names of students participating in the project will be destroyed immediately following public presentation of this research. Video tapes taken during this exercise may be shown at the public presentation, but will be destroyed immediately thereafter. Students who wish to obtain additional information about their rights as a research subject may call the Office of Research Administration at 325-4757.

I have read the above and consent to participating in the above described research.

Signature: _____

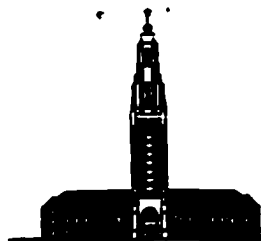
Date: _____

Name: _____

APPENDIX H

INSTITUTIONAL REVIEW BOARD

OFFICE of the VICE PRESIDENT
for ACADEMIC AFFAIRS



OKLAHOMA CITY UNIVERSITY

2501 N. Blackwelder • Oklahoma City, Oklahoma 73106-1493 • (405) 521-5287
Fax - (405) 521-5264

January 18, 1997

Institutional Review Board
University of Oklahoma
Norman, Oklahoma

Dear Board Members:

This is to confirm that Dennis Dunham has my authorization as well as the authorization of Dr. Perry Dillon, chair of the Department of English, and Professor Marsha Keller, the OCU composition coordinator, to conduct research in select sections of the Oklahoma City University international first-year composition classes during the spring semester of 1997.

Please let me know if I can provide you with any additional information about the project.

Thanks for your consideration of this application.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sandra Harper".

Dr. Sandra Harper
Vice President for Academic Affairs

APPENDIX I
SURVEY OF BIODATA OF READERS

Instructor 1

Length of time teaching full time at ELS:

20 years

Length of time teaching English as a Second language elsewhere:

2 years

If you taught ESL elsewhere, please list institutions

Peace Corps- Liberia, W. Africa

Length of time teaching in field other than ESL (Please describe briefly):

0

Please list degrees held:

B.A., M.Ed. TESOL

Have you had any other special training for ESL? If so, please describe.:

Peace Corp training, 6 mo. Inservices at ELS, TESOL, OKTESOL, MIDWEST TESOL. MEXTESOL

Have you ever presented at a TESOL Conference? If so, how many and in what areas did you present?

6-7 times. Mostly workshops emphasizing communicative and multicultural awareness skills.

Please list other languages you speak or have spoken fluently.

Personal Data

Sex *F*

Instructor 2

Length of time teaching full time at ELS:

7 years

Length of time teaching English as a Second language elsewhere:

25 years

If you taught ESL elsewhere, please list institution:

*Ohio University, Ohio State University,
Rose State College*

Length of time teaching in field other than ESL (Please describe briefly):

Jr. High English - 6 mos.

Please list degrees held:

B.A. M.A. TESL.

Have you had any other special training for ESL? If so, please describe.

Course at Boston University.

Have you ever presented at a TESOL Conference? If so, how many and in what areas did you present?

YES - this year in Orlando using debate techniques in writing classes. 2- OKTESOL presentations on using a # system to teach vowel pronunciation.

Please list other languages you speak or have spoken fluently:

*Japanese - Taught English in Japan 3 years.
Some French and Spanish.*

Personal Data

Sex__F.

Instructor 3

Length of time teaching full time at ELS:

9 years

Length of time teaching English as a Second language:

5 years elsewhere

If you taught ESL elsewhere, please list institutions:

*VOX Academey, Madred, Binational Centerys,
San Francisco Public Schools.*

Length of time teaching in field other than ESL (Please describe briefly):

3 years Spanish

Please list degrees held:

BA , MA TESOL, applied linguistics.

Have you had any other special training for ESL? If so, please describe.

NA

Have you ever presented at a TESOL Conference? If so, how many and in what areas did you present?

Two times, sociolinguistics.

Please list other languages you speak or have spoken fluently.

Spanish

Personal Data

Sex F.

Instructor 4

Length of time teaching full time at ELS:

6 yrs

Length of time teaching English as a Second language elsewhere:

0

If you taught ESL elsewhere, please list institutions

NA

Length of time teaching in field other than ESL (Please describe briefly):

German - Putnam City Schools

Please list degrees held:

BA, Working on M.Ed.

Have you had any other special training for ESL? If so, please describe.

Attended conferences.

Have you ever presented at a TESOL Conference? If so, how many and in what areas did you present?

Once, writing.

Please list other languages you speak or have spoken fluently.

German

Personal Data

Sex *M*

Instructor 5

Length of time teaching full time at ELS:

8.5 years

Length of time teaching English as a Second language elsewhere:

4 years.

If you taught ESL elsewhere, please list institutions:

*Oklahoma City Public Schools,
American Vietnamese Assoc.*

Length of time teaching in field other than ESL (Please describe briefly):

Please list degrees held

BFA, MFA

Have you had any other special training for ESL? If so, please describe.

Have you ever presented at a TESOL Conference? If so, how many and in what areas did you present?:

*Yes - 3 presentations, Media - twice. Debate.
Once at Okla TESOL*

Please list other languages you speak or have spoken fluently.:

Spanish.

Personal Data

Sex F