# USING SIMULATION IN ESL WRITING INSTRUCTION:

# A COMPARATIVE METHOD STUDY

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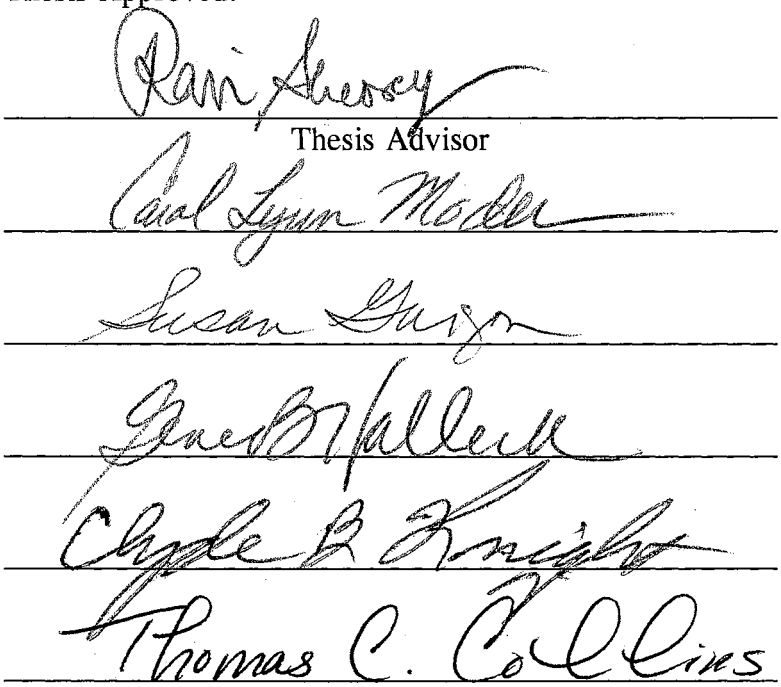

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# CHAPTER ONE

## INTRODUCTION

Writing presents physical, mental, and emotional challenges. Whether the writing instrument is a pen or a computer keyboard, considerable physical demands are made on the writer. Mental faculties are taxed by the demand for word production and arrangement to express thoughts coherently. Emotions affect the writing process in both helpful and harmful ways. For all composition teachers, these physical, mental, and emotional challenges are multiplied by the number of students who sit in their classrooms each semester. When those students claim English not as their first language, but as their second, third, or even fourth language, the challenges inherent in the writing situation increase. Nonetheless, ESL composition teachers are expected to help English as a second language (ESL) students confront these challenges, compounded as they are by the removal of the communication process from their native languages.

In fact, ESL composition teachers are often expected to help these students meet the challenges presented by writing in a second language in the time allotted for one semester of course work--forty-five classes, each fifty minutes long. At the same time, some teachers are expected to prepare them for post-tests of grammatical

competency, which will ultimately become the empirical evidence of their success or failure in instruction, an accountability system which has led some composition teachers, both for native speakers and for ESL students, to teach for the test. In other words, some composition teachers have decided to emphasize grammatical usage instead of communicative use in order to meet the demands made on them by the system of accountability for teachers put in place with the pre- and post-testing of their students. The fear that their students will not improve on the post-test has contributed to the tendency of some composition teachers to spend valuable class time drilling grammatical concepts for the short-term goal of a post-test, rather than to use the class time practicing communication skills for the long-term goal of communicative competence. Other composition teachers experience great frustration attempting to meet both short-term and long-term goals in the limited amount of class time. This frustration occurs when the teachers are attempting to meet expectations from the academic institution, but the university is not the only source of expectations.

In the midst of this dilemma, technological advancement, such as the expansion of the internet and its use around the world, has intensified the importance of communication for governments, businesses, and individual citizens. Because the ability to communicate with people in English, in both written and oral forms, increases the potential for success not only for individuals but also for the businesses and the countries with which the individuals are affiliated, expectations for the communicative ability of ESL students have risen (Boyd, 1991). However, the

instruction of ESL students has often failed to result in the outcome of students who can successfully communicate in the target language (Taylor, 1983; Savignon, 1983; Lightbown, 1985).

In an attempt to explain this failure, Widdowson (1978) made a distinction between the pedagogical goals of **usage**--knowing specific facts about the language, such as grammar and vocabulary--and **use**--knowing how to communicate effectively. Although the area of usage occupied much of second language acquisition (SLA) research and pedagogy in the past, researchers and practitioners are now focusing on the **use** that second language speakers make of their knowledge of linguistic rules (Cunningsworth & Horner, 1985; Ellis, 1995). This emphasis on use has resulted in the pedagogical goal of fostering communicative competence (Canale and Swain, 1980; Savignon, 1983), a goal that affects composition teachers in the area of writing competency.

Most second language practitioners agree that the ability to communicate effectively in the target language should be the major goal of any language course, including ESL composition. Many researchers have attempted to find out how teachers can help promote communicative competence for their students. One of the aspects of second language instruction that plays a role in the ultimate attainment of competency in written and oral communication for language students is the particular method that teachers choose (Strevens, 1978; Lightbown, 1985). For example, methods that result in activities that place emphasis on grammatical correctness may help students respond correctly to discrete items on a test of grammatical structure.

However, that emphasis on grammatical concepts may not translate into success in communicative interaction (Krashen, 1985; Taylor, 1983).

## Teachers, Methods, and Change

As a result of the apparent influence that instructional strategy, and all that it encompasses, has on the learning outcome for students, the quest for efficient methods of instruction that follow procedures informed by those approaches in second language acquisition has occupied many researchers and practitioners. Although they have come to realize that each instructional situation is unique, "systematic applications of validated principles to practical contexts" (H. D. Brown, 1994, p. 160) are still required. J. D. Brown (1988) argued that the advancement in second language instruction can progress only when the "gap between theory and practice" (p. vii) is bridged. Teachers who conduct research can build this bridge by empirically testing the effects of their instructional methods through experimental research in attempts not merely to discover differences and similarities in learning outcomes, but also to change their methods if the research indicates that changes would bring learning outcomes closer to the instructional purposes.

Although acceptance of research findings proclaiming the merits of communicative language teaching has been forthcoming, the implementation of methods incorporating the approach has been slower. Some experienced teachers are comfortable with their established techniques and have expressed the feeling to this author that major methodological changes to incorporate communicative tasks would

be too work intensive. Therefore, claims for the effectiveness of communicative language instruction have not produced many changes in the instructional strategies of these teachers.

Change is difficult, especially for established teachers. Candlin (1991) claimed that his many visits to classrooms had led him to conclude that in spite of teachers' apparent acceptance of innovative teaching techniques, they did not put them into practice. Candlin (1989) also argued that teachers often adopted techniques without regard for the theoretical underpinnings, haphazardly appending this year's currently popular trend to the curriculum already in place and quickly abandoning it when the next trend surfaces instead of making a clean break with the past and establishing a unified approach with a theoretical foundation. This wavering in the face of change to effect a unified approach, not merely adding or subtracting from the *status quo*, is understandable, but noticing the gap can provide motivation to combat inertia for teachers as well as for students. Schmidt (1990) pointed out that, whereas for students, noticing the gap means recognizing differences between their output and the output of native English speakers, in the case of teachers, the gap represents the distance between their students' proficiency level at the completion of a course of study and the projected proficiency level that was set as a goal for the course.

At the end of a course of study, most teachers assess what happened during the course and often adjust their syllabuses with the hope of improving the course for the next group of students. These changes are usually merely adjustments, but sometimes major changes occur. An example of one major change was the spread of

the process paradigm through the field of composition and rhetoric. As observed by researchers in the field of native-speaker composition, the time between the recognition of a successful new method and the adoption of that method is extremely lengthy, if the transition to the new method is ever made at all. To illustrate this adoption process, Hairston (1982) compared Thomas Kuhn's revelations concerning the political influence on the acceptance of scientific breakthroughs, to the composition teachers' acceptance of the process paradigm, which she said had taken composition teachers twenty years to accept.

Raimes (1991), Zamel (1982), and Reid (1993) lamented the even longer time that it is taking English as a second language (ESL) writing teachers to adjust to the process revolution. Zamel (1987) reported that most ESL classes are still product-oriented with discrete point exercises and drills overshadowing authentic writing assignments. Another area in which change is a long time in coming is the incorporation of new technology into writing instruction. Hawisher and Selfe (1994), as Bridwell, Nancarrow, and Ross (1984) had ten years earlier, expressed regret at the inability of educational institutions and practitioners to keep up with technological advancements through the purchase of equipment and the integration of computer applications into the curriculum.

Reid's (1993) account of change stressed that it requires individual choice. The time and effort, and often expense, involved in changing make it a slow, recursive process, best accomplished through collaboration and support. Major changes, such as the kind required to cope with constantly evolving technology, are

difficult to achieve because teachers think that they must learn all applications of the technology themselves before introducing it to their students. This extensive preparation is not always possible due to the speed of technological advancements. Sometimes the process for accepting new technology, learning to use it, and integrating it into the curriculum must be collapsed into a single semester if teachers are to keep pace with skills rendered necessary for their students by technology.

Teachers' syllabuses and methods should be modified to incorporate technological advancements and the changing needs of students. In order to keep pace with changes in student needs, teachers must observe their students, using the classroom as a laboratory. These student observations are mandatory according to Nunan (1991), who insisted that change should be influenced by "insights from the classroom itself" (p. xiii). Because learning itself requires changing, and teachers are constantly caught up in the process of change within their own classrooms, the problem occurs not when teachers change but when teachers do not change to meet new challenges.

## Background

Like the teachers described above, I was also reluctant to make major changes. Having taught English composition for twenty years and the special composition sections reserved for ESL students for sixteen years, I had solidified my basic approach to the instruction of both courses. My composition background brought me to the process approach fairly early in its reign; however, I stealthily kept some of the

"old ways" of looking at the product and explicitly teaching discreet parts of the product. This practice sometimes caused guilt, which was eased by Horowitz's (1986a, 1986b, and 1986c) sanctioning of attention to product for the academic preparation of students. Research in the fields of teaching English as a second language and composition had served to augment and support practices that were already in use in my courses. For example, Ur's (1988) four-step approach to grammar presentations was similar to my approach to grammar, although I did not connect her steps with their theoretical underpinnings until reading about the connection later.

The attachment that I had to my established methods was further supported by favorable results. Most of the students in my composition courses had shown improvement at the end of the semester, according to the *Simon and Schuster Test of Writing Competency*. This instrument, which focused on grammatical competency, was used to assess the instructional effectiveness of the composition courses at that time. It did not include a writing sample. (For empirical evidence of the students' improvement on this instrument, the results of the discrete-item assessment instruments gathered during the two semesters before this study began are included in Appendix A.)

Another impediment to change was my misconception that communicative competence applied primarily to oral proficiency. Since I was teaching courses in writing, specifically sheltered ESL college composition, the movement of ESL professionals toward communicative competence, which was usually treated in the

literature as oral proficiency, had not affected me. At least that is what I kept telling myself until other events forced me to notice the gap that had developed between my methodology as it was realized in course syllabuses and my philosophy of teaching ESL as it had been transformed through the course of my graduate studies. First, I learned that any ESL course, including composition, could be adjusted to better fit the students' need for communicative competence. Second, I learned about simulation, a method that increases the participation of students during class, and the procedure for creating and implementing that method in my composition courses. Third, I learned how to navigate the internet and how to integrate its use into composition courses. The three examples of changes resulting from my education described above contributed to the realization that I needed to change my teaching methodology. All I required was some empirical proof that change would bring benefit.

Reid (1993) stated that "no one changes unless that change is perceived as beneficial" (p. 140). Professionals in the field of education, like the medical profession, should comply with the Hippocratic Oath, which requires that no harm be done. I did not want to make radical changes in methodology that had been successful. The situation that a teacher faces when deciding whether to change methodology or maintain the present course can be compared to the approach to grammar in which Ellis (1995) built upon Schmidt's (1990) gap-noticing and Sharwood-Smith's (1981) consciousness-raising. The Ellis model revises the terminology "noticing the gap" to "cognitive comparison," defending the revision by arguing that "noticing" can occur without differences being detected; in other words,

matches as well as gaps can be recognized. Similarly, teachers can notice that there is no apparent gap between their students' outcome and the goals that were set. However, even though this cognitive comparison appears to reflect optimal results, teachers usually then analyze the goals that were set and make another cognitive comparison to determine whether the goals match current student needs or whether there is a gap in the match between the needs assessment and the course goals.

This cognitive comparison of goals and needs explains why my syllabus for the course "English Grammar and Composition for Internationals," which had served its purpose for so many years, bore little resemblance to the first syllabus that I had created for the course. A review of the writing instruction portions of the syllabuses for this course collected over the past ten years revealed that its evolution followed the path from product to process similarly traced by Reid (1993) in her overview of native English speaking and ESL composition courses and by Raimes (1991) in her historical survey of second language writing instruction. The path as revealed by my syllabus archives appeared similar to the developmental stages of the professions of composition/rhetoric and teaching English as a second language, which is not surprising considering the influence that textbooks, colleagues, and publications have on teachers. The syllabus that had evolved was a product of my experience, which paralleled the experience of others in the profession.

The only part of my syllabus collection that reflected a departure from practices established and supported by the literature of each era is the radical attention given to some discrete grammatical and rhetorical points in the product, a practice

that I had never been able to abandon. However, even during the eras that were notable for their "throw grammar out the door" attitude, support for some grammatical instruction was forthcoming in the form of publications appearing on a regular basis from ESL researchers, such as Sharwood-Smith (1981), Rivers (1986), Omaggio (1986), Spada (1987), Ur (1988), Tomasello and Herron (1989), Lightbown and Spada (1990), Celce-Murcia (1991). Finally, Nunan (1991) stated that "grammar has been reinstated" but has been affected by "advances in linguistic theory and psycholinguistic research." This reinstatement came after a period during which "the teaching of grammar was considered of marginal utility" (p. 166). Therefore, some attention to grammar was acceptable within the confines of a curriculum that focused on communication.

Support for attention to rhetorical patterns in my syllabuses collected over the past years came from several researchers. Kinneavy (1969) introduced the aims of discourse, encouraging the instruction of composing processes to be accomplished in a rhetorical context. Clark and Clark (1977) illustrated that writing involves complicated mental operations, such as meaning, genre, style, purpose and selection of material, which must be activated in some manner. Carrell's (1984, 1989) research in ESL reading as it relates to rhetorical patterns and memory supported metacognitive awareness instruction from the standpoint that reading is integrally linked to writing (Britton, Burgess, Martin, McLeod, & Rosen, 1975; Crowhurst, 1991). Both skills require memory strategies and the productive skill of writing relies on the receptive skill of reading. Further support came from Connor (1987), who, in

analyzing cross-cultural variation in students' argumentative essays, found that there were specific rhetorical strategies used in the successful essays composed by the American students; therefore, she suggested that ESL students be taught those strategies.

These researchers in the fields of composition, rhetoric, and teaching English as a second language influenced the continued inclusion of rhetorical strategies and grammar structures in my composition course syllabus through its many modifications; however, in the fall semester of 1994, my task of syllabus construction included making major changes.

The impetus for me to change my method peaked in the summer of 1994, when, during a course in materials design, I was introduced to simulations as a method of ESL instruction. Up until that summer, my syllabus, following the traditional teaching method of lecture, reading and writing assignments, grammar exercises and class discussion, had been modified only slightly each semester to fine tune details of the course. Facing a new semester and another chance to help students improve their English proficiency with the goal of college success, I decided to test the use of simulations in the instruction of composition in order to investigate the effects of the increased participation required of students during simulations. Every graduate course and the accompanying required reading and research contributed to my confidence to effect beneficial change in my teaching methods and also supported the need for change in my teaching approach.

The use of simulation appeared to be a viable alternative to the traditional

approach to writing instruction, but I wanted to determine the effectiveness of the use of simulations before attempting to change my methodology in all writing courses. Troyka (1973) had used simulations in the teaching of writing as an auxiliary activity but not as the main method of instruction for a complete semester course. In order to support any findings based on the use of simulation as a method of instruction, it would be necessary to implement its use during the entire course. No simulations were available for composition courses that extended through the entire semester. Therefore, I designed a simulation called GLOBECORP that would control the course sequence for the full 16 weeks of the semester and created this study to investigate specific effects of the use of simulation in ESL writing instruction.

In order to determine how effective the simulation was, another section of the composition course taught with the traditional method that had previously been used for the ESL composition courses was used as a control group for the study. Four research instruments were used to provide data to be analyzed statistically in order to present empirical evidence of the effects of the two different instructional methods. I administered three of the four research

instruments both at the beginning and end of the semester. These pre- and post-treatment scores were used to discover any changes within the groups as well as the any changes between the groups. My research questions were as follows:

1. Would the use of simulations increase the writing competency of ESL composition students as measured by the *Simon and Schuster Test of Writing Competency* and by writing samples?

2. Would the use of simulations lower writing anxiety for ESL composition students as measured by scores on writing anxiety surveys?

3. Would the use of simulations increase the students' perception of the usefulness of the class as measured by surveys on instructional effectiveness?

## Chapter Overview

Chapter Two includes a review of literature covering the various fields that inform professionals who are involved in ESL composition instruction. Those fields include composition and rhetoric, teaching English as a second language (TESL), linguistics, computer assisted instruction (CAI), and simulation and gaming. Chapter Three provides the methodology for the study, including descriptions of the subjects and the research design, descriptions of the research instruments, the procedure used to create the simulation for the experimental group, the procedures followed to conduct the instruction for the groups being compared, information about the administration of the instruments, and explanations of the statistical procedures used to test the 10 hypotheses. Chapter Four presents and describes the results from the statistical tests that were conducted on the data gathered with the four research instruments. Chapter Five discusses the results presented in Chapter Four, concluding with a look at the implications of the study and some suggestions for further research.

# CHAPTER TWO

## REVIEW OF THE LITERATURE

The purpose of this study was to examine the effects of the use of simulation in the instruction of ESL composition. In designing the study and the syllabuses used for the experimental and control groups, literature in the fields of simulation gaming, composition and rhetoric, and teaching English as a second language was reviewed. The relevant theoretical issues included conflicts over terminology, decisions involving the implementation of communicative language teaching, controversies in the instruction of writing, and problems associated with using simulation in educational environments.

The review of literature begins with the terminology debates, one in the field of TESL over the referent for the term "method" and one in the field of simulation gaming over the terms and the rendering of the terms used to refer to the field itself. These terms first became an issue in this study when the need arose to discuss the entities that they represent. In addition, the reference to simulation as a method of instruction requires explanation and support from the literature.

Literature concerning the development of methods to operationalize the communicative language teaching approach is reviewed as the development of those

methods often included aspects of simulation. This inclusion of simulations in the methods following the communicative language teaching approach illustrates how the use of simulations has evolved and justifies the placement of simulation in the group of methods supported by the theoretical underpinnings of the communicative language teaching approach. Within simulations are embedded interactive communicative tasks, and those tasks are designed by teachers. Issues involving the design of those tasks and the effects of those designs on the students are discussed in the section on communicative language teaching.

Issues related to the controversies in the literature on writing instruction are also discussed. These issues include the influence of the Fluency First movement on ESL composition instruction because the use of simulations encourages students to attain fluency and comprehensibility before grammatical correctness. Literature on the integration of computer assisted instruction (CAI) into composition classes is discussed in relation to the responsibility that composition instructors have in helping students develop computer literacy and in relation to the types of software available that are based on the method of simulation. Also, studies on writing anxiety are reviewed in light of the claims that the use of simulation in instruction lowers anxiety.

Both the advantages of simulation as a method of instruction and the criticisms aimed at simulation gaming that are included in the literature of the field are discussed. In order to provide information about some of the decisions made in creating the study, literature on the problems with comparative method studies and studies comparing simulation to other methods will be reviewed. The final issue

discussed is the controversy over the element of time involved in simulation administration. Because this study required the creation of a simulation, the use of and justification for two different methods of instruction, explanations of the logic behind the inclusion of specific activities in the course syllabuses for both the experimental and control groups, the design and defense of a comparative method study, and specific instruments to gather data on different aspects of the results of the two treatments, literature selected from different fields of study is included in this review.

## The Terminology Debates

Confusion often occurs over the terminology used in discussing methods of instruction in the field of TESL. Similarly, in the field of simulation gaming, a terminology debate has continued for over two decades. Before any discussion concerning matters related to these two topics occurs, I will provide some information about the background of these debates and some explanations for the terminology selected for use in the remainder of the discussion in this literature review.

### *Methods*

When Nunan (1991), Allwright (1983, 1991), J. D. Brown (1988) and others repeatedly called for classroom teachers to conduct research in order to add to the knowledge of the field and improve the learning outcomes for their students, teachers needed to know how to proceed. Attempting to guide teachers in this endeavor, Ellis (1995) described three approaches to second language classroom research:

comparative method studies, classroom interaction studies, and formal instructional effectiveness studies, but he argued that "method" might not be the most effective "unit for investigating the effect that language teaching has on second language learning" (p. 573). The definition and operationalization of the term "method," therefore, is an issue for those who want to take the comparative method study approach to ESL classroom research. Without the referent for the term "method" defined with clearly distinguished criteria for analyzing and classifying instructional methods, comparative studies would not be worthwhile.

Anthony (1963) established the foundation for the terminology debate with his definitions for "approach," "method," and "technique," which he arranged in a hierarchy. The "approach" referred to the theoretical position; the "method" referred to the master plan of instruction; the "technique" referred to the classroom activities. Then Richards and Rodgers (1982) adapted Anthony's framework by pulling the term "method" from the middle of Anthony's three-level hierarchy and placing it at the top to encompass the approach (theoretical position), the design (objectives, syllabus, activities, roles), and the procedure (techniques).

The modifications made by Richards and Rodgers took into account that the term "method" was being commonly used to refer to all of the elements involved in language instruction. However, once the term "method" was used in the Richards and Rodgers' framework to subsume the other elements, it could not be used again to refer to an element of itself, so they used the term "design" instead. They also replaced Anthony's term "techniques" with the term "procedure," which gave the

sense of a more unified, ordered and progressive set of activities.

H. D. Brown (1994) then pointed out that Richards and Rodgers' modification of the earlier framework established by Anthony (1963) had confused the issue by placing method at the top of the hierarchy. In order to untangle this web of terminological intricacy and make the terms more compatible with common usage, H. D. Brown suggested that the term "design" be replaced with the more frequently used term "syllabus," which, even though referring to only one part of Richards and Rodgers' concept of "design," was more easily understood. He also distinguished between "methodology" ("the study of pedagogical practices in general") and "method" ("a generalized, prescribed set of classroom specifications for accomplishing linguistic objectives. . . . primarily concerned with teacher and student roles and behaviors") (p. 159), arguing that the word "method" often caused ESL professionals to think that the term only referred to the "designer methods."

H. D. Brown's (1994) attempt to clarify the Richards and Rodgers' version did not preclude the use of their schema in analyzing methods. In fact, Brown stated that their "reformulation of the concept of method was soundly conceived" (p. 159). He had merely taken the liberty of rendering their framework with terms that he considered more fitting for the current usage. Richards and Rodgers' taxonomy, with H. D. Brown's replacement of the term "syllabus" for "design" appears to me to be the best compromise for current use because it renders "method" as the realization of "approach," and "procedure" as the sequence of activities that operationalize the "method," each element interacting with the other. With this taxonomy, instructional

methods can be analyzed, providing the basis for comparative method studies.

*Simulation Gaming*

Similar to the problem for ESL professionals in clearly defining the components of a teaching method, the field of simulation and gaming has faced confusion concerning the terms commonly used as referents in its literature. This confusion has resulted in problems for the field of simulation gaming. The use of "gaming" as a term for the gambling industry and the detrimental halo effect from the infamous simulation game DUNGEONS AND DRAGONS, a simulation game that has been linked to satanic cults and the drug culture by some people, provide just two examples of the many situations that have contributed to the bad publicity and misunderstandings that burden simulation gaming methodology, resulting in a lack of respect for the method in educational environments.

This problem has spread to the internet where proponents and creators of simulated environments once called Multiuser Object-Oriented Domains, or MOOs, are actively promoting a name change from MOOs to VEEs, an acronym for Virtual Educational Environments, in order to disassociate themselves from the bad publicity surrounding the earlier term used for computer simulation applications in education. For example, many administrators who control the use of computers on college campuses deny access to MOOs, believing them to waste time. Unfortunately, this top down instituted name change from MOOs to VEEs has not yet received full acceptance, so the strategy of avoiding the problem by revision will probably not enhance the reputation of simulation gaming either.

Crookall and Oxford (1990) supported the freedom taken by proponents in referring to the method, arguing that the "inherent ambiguity" may even attract more adherents by allowing them to choose their own way of referring to the method. Their text makes reference to simulation gaming with the terms "simulation/gaming" and "interactive simulations," but the reference that appears to occur most frequently in educational uses of the method is simply "simulation."

From the confusion caused by terminology in the fields of TESL and simulation gaming, one sees that definition by its very nature is subjective and open to influence from many sources, but when it comes to differentiating between play and learning and work, the task becomes even more difficult due to individual perceptions and connotations of the nomenclature for these activities, referred to as "games." A small child is encouraged to play in order to learn, and time is provided for the process involved in the acquisition of the particular skill being addressed; however, many believe that adults would be ridiculed for approaching the learning situation in the same way as a child.

In responding to the different approaches to games by adults and children, Flege (1987) suggested that the socially inflicted inhibition of adults may contribute to the age-related differences found in second language acquisition. In this social-psychological explanation for adults' failure to match the SLA ultimately achieved by children, one can extrapolate that adult resistance to socialization through risk-taking may be reduced if adults were encouraged to experience the use of the target language for interaction in a safe environment in which they could try various linguistic

constructions without penalty, just as children do when they play games. However, the terms "game" and "play" have come to be associated with childhood in the minds of many people, so activities categorized as "games" are not taken seriously as a method of learning for adult students.

On the other hand, the term "simulation," while more acceptable for adult participation, conjures images of flight control panels and wind tunnels, not methods of acquiring a language. The spread of computer use through the general populace has helped in the acceptance of the term "simulation" as a serious method of analysis. Becker (1980) dated this relationship between computers and simulation back to 1950 when simulated systems were created to study the changes, progressions and rule related behavior of specified occurrences. Also, the proliferation of simulation through military application in war games and schools of business in the form of a case study approach has added to the respect for the use of simulations in specific applications.

However, if the lay person's perceptions of the two terms as they are isolated from one another have caused problems for the use of simulation games in adult education, the confusion is compounded when the terms are combined. The juxtaposition of the terms "simulation" and "gaming" affects the connotation of both (Becker, 1980). "Simulation" as a modifier reflects the analytical function of the entity, and "gaming" as the head noun reflects the nature of the entity as a model. Differing perceptions of the proponents and researchers in the field of simulation gaming have resulted in different renderings of this entity. "Those involved in the

design, use, and evaluation of gaming-simulations agree on neither terminology nor taxonomy" (Greenblat, 1975, p. 106).

Shirts (1975) addressed this terminology problem by offering a schema based on three individual categories of activities--simulations, games, and contests. These pure categories overlap to produce four more hybrid groups--simulation games, simulation contests, contest games, and simulation game contests--for a total of seven groups. Of these seven groups, Shirts contended that the hybrid composed of all three categories, simulation game contest, most closely denoted the "experiences which were generally called 'educational simulations' and 'simulation games'" (p. 80). He supported this contention with the following account, providing an explanation for each category.

According to Shirts, contests should include decisions about limited supplies of, for example, money, influence, time, or tokens representing those concepts, and most educational simulations involve these decisions. Inclusion in the group of referents labeled "simulations" merely requires that the experience model reality, which is usually the pedagogical goal. Shirts then cited Suits (1967), who defined games as activities with agreed-upon conditions, sometimes involving inefficient methods, to reach a desired state or end. Shirts used this definition to complete his defense of his placement of educational simulations in the hybrid category comprising all three individual categories.

However, as in the situation with Richards and Rodgers' (1982) taxonomy, the term preferred by Shirts, "simulation game contest," did not retain its popularity,

possibly due to its length and some people's perception of it as a redundancy. In fact, adding the word "contest" may even cause greater misunderstanding in the educational profession, which lately has been attempting to instill cooperation, not competition, in its clientele--students. The world of business, on the contrary, has attempted to keep the competitive aspect of simulation gaming methodology. The list of best-selling books in *Business Week* includes a book on game theory and business strategy entitled *Co-Opetition*, a word coined by authors Brandenburger and Nalebuff (1996) to express the link between cooperation and competition in the global market. With the varied uses of simulation and gaming, the plethora of vocabulary in the English language, and the practice of changing referents to avoid associations with checkered reputations, the phenomenon of terminology confusion found in the field is understandable. However, consistency would help to establish the reputation of the field.

The preferred terms in the literature to refer to the field as a whole seem to be "gaming-simulation," with the hyphen, preferred by Greenblat (1975, p. 106), "simulation/gaming," used by Crookall and Oxford (1990), or "simulation gaming," as depicted without the hyphen or slash by Becker (1980). For the discussion in this study, Becker's juxtaposed term "simulation gaming" has been used to refer to the field. Specific activities within the domain of simulation gaming methodology have been referred to with the short form "simulations" by Crookall and Oxford (1990), a practice adopted for the present discussion as well because this term is also preferred by those who use simulation in educational instruction.

Now that the terms for this study are established, some issues in the implementation of methods operationalizing the communicative language teaching approach are addressed. As discussed in the section above, the implementation of a method requires that the approach be understood. In this study, the method of simulation operationalizes the communicative language teaching approach; therefore, information about this approach is included.

## The Communicative Language Teaching Approach

The communicative language teaching approach relies on the interactive nature of language, emphasizing the experiences that the students will face in the actual use of the target language outside of the classroom as the focus of study for the course (Littlewood, 1980). Long (1981) contended that interaction, with its requests for clarification, repetition, and expansion, facilitates second language acquisition more than input itself. Halleck (1990) noted the "variety of communicative functions," such as those listed by Long, during her administration of a simulation in an ESL class, suggesting that simulations provided an activity to elicit these functions of language.

Precedent was set for emphasizing communicative functions in situational and notional/functional syllabuses (Wilkins, 1976), designs for the communicative language teaching method (Strevens, 1978), as is the Munby Model (1978) which was promoted by the British Council. K. Johnson (1982) defended the use of communicative methodology in designing syllabuses. Another operationalization of

communicative language teaching is the task-based syllabus (Nunan, 1989; Prabhu, 1987; Long, 1992; Kumaravadivelu, 1993). Simulation gaming incorporates elements from each of these syllabus designs. The theoretical underpinning for these curriculum and syllabus models based on communicative language teaching is that tasks promote the use of language through classroom activities in which the successful completion of the communication act is the major goal. Liskin-Gasparro (1987) suggested aligning second language curriculum with the tasks required for oral proficiency interviews, one of which is a role-play. All of these researchers support the use of tasks in an attempt to make the teaching method fit with the purpose for learning a language--communication.

With communication practice as the main reason for designing and assigning tasks, researchers have been investigating the relationship between the types of tasks assigned to students and the precision levels of the language produced by those tasks. Lococo (1976) found that task type influenced the use and errors in the language produced by 28 adult elementary level Spanish students studying English as a second language (ESL). In his study, the students produced fewer errors in adjectives, determiners, and verbs when translating than when producing their own language. This finding helps explain the differences in students' use of language and their knowledge about the language. Perhaps if students had more practice performing tasks in which they created their own language, they would increase their proficiency for tasks in the real world in which they are usually required to produce their own language.

Tarone and Parrish (1988) revealed findings similar to Lococo's when their study showed that the accuracy level of the performance of ten Japanese and ten Arabic ESL speakers varied according to the design of the task that they were asked to complete. The results of these two studies implied that the type of activities, or tasks, that are used in a course of instruction could affect the outcome for students. If students practice in the classroom by completing communicative tasks designed to encourage negotiation and production of language, then teachers should be aware that more errors may be made than if students are asked to complete translation tasks or discrete-item exercises. Tasks make the method of instruction salient, and they influence students' production of language and the number of errors that students make. Due to the link between task and method, the method of instruction can be seen to influence the ultimate attainment of students (Spada, 1987; Breen & Candlin, 1980).

Other researchers pointed out the benefits and varieties of tasks that can be incorporated into the ESL syllabus. In his three-tiered classification of methodology, Kumaravadivelu (1993) categorized task based language teaching as learning centered, not language or learner centered. His stratification of these methods placed the focus on learning as the ultimate achievement. Prabhu (1987) organized a curriculum around task based language teaching consisting of three task types: information, opinion, and reasoning gap tasks in order to give students practice across types, which he believed would increase their communicative skills in each area. When the focus is on message transmission to complete a task designed by teachers to facilitate

learning, students are able to learn not only language usage but also the communicative processes that make their second language available for use in real situations (Taylor, 1983; Nunan, 1989; Kumaravadivelu, 1993).

Communicative tasks make the students and the teachers equally responsible for the learning task. Newmark (1966) argued that second language learning in classrooms would proceed more efficiently if teachers stopped "interfering" in the learning process. Newmark's argument seems to agree with Kumaravadivelu's suggestion to make classroom activities learning centered, a mandate echoed by Geddes, et al. (1990). However, planning learning activities and providing opportunities in the classroom for interaction which mirrors real life situations is difficult. When teachers make the decision to share responsibility with the students for the learning task, the teachers must make decisions that will ultimately affect the amount of learning that is possible.

Researchers have investigated the effects of instructional decisions made while planning tasks. Savignon (1991) suggested that research in the use of interactive communicative tasks address learner styles and the effect of context, such as setting and roles, with the hope that better understanding would offer the "potential for improving classroom practice of the needed skills" (p. 270). She continued by arguing that "little systematic inquiry" had focused on "the instructional perceptions and practices of teachers" as planners of the interactive communicative tasks (p. 272). Doughty and Pica (1986) and Pica (1987) also stressed the importance of teacher planning in setting up the conditions for using interactive communicative tasks in

second language classrooms, noting that one problem was the tendency of assertive students to dominate the interaction in small group discussions. Research conducted by Alvarado (1992), Long (1981), Krashen (1987), Pica, Young, and Doughty (1987), and Pica, Holladay, Lewis, and Morgenthaler (1989) indicated that students must negotiate meaning during interactive communicative tasks to increase their proficiency; therefore, a situation in which all students interacted to create comprehensibility would provide the most efficient use of class time.

The issue of grouping strategies presents one of the instructional decisions that could result in differential learning opportunities for the students. Proponents of small group interaction, including Yule, Powers, & Macdonald (1992), investigated the effects of grouping factors on the success of interactive communicative tasks. They discovered that the teachers' strategic manipulation of variables inherent in the situation, such as grouping assignments, bore the responsibility for the success or failure of the activity because those decisions affected the amount of negotiation of meaning and thus the production of comprehensible input. Krashen (1987), emphasizing the process of language acquisition, defended the indispensability of comprehensible input and low affective filters in achieving communicative competence through classroom interaction, contending that other variables, such as age and length of exposure to the target language, could "better be explained in terms of comprehensible input plus filter level" (p. 33). The theory that other variables are subsumed by comprehensible input and filter level stressed the importance of context in planning interactive communicative tasks, especially in the grouping of students for

interaction in classroom activities.

The concerns that these researchers expressed about the influences of grouping on the effects of interactive communicative tasks were addressed in a study by Alvarado (1992). She investigated the differing amounts of negotiation produced when students were grouped according to their discourse styles. Her study suggested that mixing aggressive students with shy students worked better than trying to group shy students together in the hope of forcing them to talk.

Alvarado's study motivated my preliminary study to examine how grouping assignments influenced the amount and type of negotiation in which students participated. The focus of that study was to examine the discourse produced during the process of dyadic interactive communicative tasks performed by four different configurations of student pairs, mixing and matching active and non-active discourse styles. Two major questions were addressed: First, does pairing students with similar discourse styles affect the outcome of interactive communicative tasks, and conversely does pairing students with different discourse styles affect the outcome of those tasks? The aim of the study was to discover which configuration of grouping assignments produced the greatest opportunity for collaborative negotiation of meaning: the chief purpose for including interactive communicative tasks in the ESL curriculum. The findings showed that groups in which no member initiated and controlled interactions produced less discourse, therefore thwarting the goal of increasing communicative competence (Spelman, 1992). If little discourse is produced, then the goal of communicative language teaching has not been met.

It can be assumed from these studies that the group assignments made for the simulation would affect the outcome in the amount of discourse produced. Another factor influencing the amount of discourse produced is discussed in the next section.

## Issues in the Teaching of Writing

The issues concerning the teaching of writing that will be addressed in this section include the effects of the Fluency First movement on writing instruction, the problems of incorporating the use of computers into writing instruction, and the issue of writing anxiety. All of these issues are discussed in the sections below as they were instrumental in the decision to change my approach to writing instruction in order to use simulation, a method that emphasizes fluency, provides a way to incorporate computers into writing instruction, and lowers writing anxiety.

### *The Influence of the Fluency First Movement*

Many composition teachers want to change to a methodology reflecting the theoretical underpinnings of communicative language teaching. One way of implementing that change is provided by the Fluency First movement, which has contributed to the move toward more authentic writing assignments and less emphasis on form in order to help the students become fluent writers and to lower the anxiety levels associated with writing. The Fluency First movement in ESL derived some support from the whole-language movement used with native speaking students. Both the whole-language and Fluency First movements were based on the principles that language should be learned through social interaction and that students learned

language though meaning first. Although some researchers, such as Rivers (1986) claimed that stressing fluency and production before grammatical competency caused fossilization, MacGowan-Gilhooly (1991) with the Fluency First program at The City College, City University of New York (CUNY), illustrated that the whole-language principles could be applied to the reading and writing instruction of ESL students with successful results.

The ESL composition teachers at The City College, CUNY who subscribe to this approach stress fluency first, clarity next, and then correctness. They asked their students to read seventy or more pages a week from novels and other authentic material, such as newspapers, at early stages in the language learning process. They also encourage their students to write with concern for volume instead of form by assigning them to write 10,000 words during the semester. The peer and teacher readers commented on comprehensibility, logic, and interest, not grammatical correctness. However, at the end of the semester, MacGowan-Gilhooly reported that the students were writing more correctly than at the beginning even though correctness had not been emphasized. The students also performed better on the institutional writing exam, with the number of students passing increasing from 35% to 56%.

The Fluency First movement draws on the theoretical framework of many pioneers in communicative language teaching. According to Freeman and Freeman (1992) the theoretical support for the program draws on Gardner's (1984) contention that there are different ways of knowing and that those ways are as important as

knowledge of discrete facts. Others have cited Krashen's (1987) learning and acquisition dichotomy, Cummins' (1989) plea for experiential learning in the language classroom, Damen's (1987) declaration of the importance of learning about culture in the classroom to enhance language proficiency, and Freire's (1970) call for students to become involved in their own learning.

Fluency First has become so popular that a special group has been set up on the Teaching English as a Second Language electronic mailing list so that interested parties can discuss it and share information concerning the methods that implement its use. Simulation is one method that emphasizes fluency. With communication as its focus, simulation encourages students to develop their fluency first in order to transmit the message required to complete the task or tasks assigned within the simulated event. Only errors in grammatical form that impede the successful transmission of meaning are confronted. These errors can be corrected through the process of negotiation. In this way, simulation responds to the call for fluency first.

Another response to the call for fluency before correctness, can be provided by the use of computers in writing instruction. Computer assisted instruction, which is easily incorporated into simulation, provides students more opportunities to communicate with the transmission of message as the focus. A discussion on how the implementation of computer assisted instruction motivated my decision to use simulation and to test the effects of that use in teaching ESL composition is the focus of the next section.

*The Incorporation of Computer Assisted Instruction*

Another motivation for change in my teaching method to one that reflected a communicative approach and encouraged fluency was the advancement of computer technology and the increasing accessibility to computers. Writing, always an essential skill, had become even more important with the advancement of personal computers and the ability to network them, increasing the need to incorporate computer use into the composition courses. Computers were becoming accessible all over university campuses, and competency in their use had become a necessity for university students, not only to complete their degree programs, but also to compete for jobs after graduation. Composition teachers had to play a role in the development of their students' computer skills. They could do this by taking advantage of computer assisted instruction (CAI). Of course, learning to use the computers themselves was the first step for teachers, but the second step presented an even greater challenge. Which areas of ESL writing instruction could benefit from CAI, which types of CAI worked best, and how could CAI be incorporated without causing undue stress for first-time computer users?

From the beginning, computer technology had created a flurry of activity in the field of writing pedagogy. The use of computers and word processing offered practitioners of the process method of writing instruction and their students a practical way to fulfill the multiple draft requirements of that method (Selfe, 1985). Computers had been touted by writing instructors as an antidote to the logistical problems associated with teaching the writing process. Proponents of technology for

writing instruction argued that computer technology influenced almost all areas of the teaching of writing: planning, drafting, writing, revising, editing, and publishing (Selfe, 1985; Hawisher & Selfe, 1994; Rodrigues & Rodrigues, 1994). Bridwell, et al. (1984) claimed that computers had revolutionized students' text production. Johnson (1985) provided a report for the Carnegie Commission supporting the use of computers for enhancing ESL fluency. Butler and Kinneavy (1994) modified an earlier prediction of Joseph Trimmer, who, chronicling the history of writing instruction, had predicted that the 1990s would emphasize the cultural aspects of writing. In the Butler and Kinneavy modification, the 1990s were instead predicted to focus on "The Electronic Discourse Community."

However, a decade after those testimonials from and predictions of prominent composition and ESL researchers, computer technology had still not been fully utilized in my composition classroom or most classrooms for either non-native or native speakers. Why was that the case? Bridwell, et al. (1984) argued that since computer word processing capability paralleled the development of the process method, educational institutions' procurement of equipment lagged behind from the beginning and as evidenced by the present situation in most public universities, including my institution, has not caught up even today.

Software development for educational applications also progressed slowly, as it was more profitable to create software for other sectors of the economy. Most of the programs that were written for ESL during the early development were drills which had already proven to be ineffective in the advancement of writing skills (Sommers,

1985). A 1990 study in which I was involved attempted to compare the effects of computer assisted instruction on ESL readers (Jarrett, Monfort, Russell, & Spelman, 1991). We had difficulty convincing software providers even to talk with us because they did not want to deal with the purchase order forms and slow reimbursement related to public education expenditures. The software that we managed to obtain was primitive and really no better than pencil and paper exercises. In fact the programs appeared to be a throwback to the days of "drill and kill" methodology. Maybe these drill-type programs resulted in the fact that not one entry concerning computerized instruction exists in Ellis' recently published 824 page reference to second language acquisition research (Ellis, 1994) and that Reid (1993) devotes only four pages of her 354 page book on ESL writing instruction to computers. Computer assisted instruction in many instances had become the domain of the writing laboratory (Butler & Kinneavy, 1994) and was usually only recommended as extra practice for students having problems.

Contributing to the problem of obtaining hardware and software for use in classrooms were the technology resistant teachers who dreaded the invasion of technology into their classroom. Some of those resisters thought that they would be replaced by machines if they allowed people to discover that computer assisted instruction was effective; some feared that the intrusion of machines would lower the amount of interaction among students (Mullin, 1991; Hawisher & Selfe, 1994); some mistakenly thought that the drill type of computer programs written in the repetitive mode were still the only type of software available.

Such teachers need to be informed, as I eventually was through reading, conference presentations and demonstrations, that in addition to the repetitive mode, there is now software available in the exploratory mode, the cognitive mode, and the reconstructive mode (Statan, 1990). Each of these modes can be used to enhance specific aspects of second language proficiency, and each mode lends itself to simulation.

The repetitive mode includes programs that drill students on specific concepts. This mode, although held in disrepute due to its overexposure at the beginning of CAI, is still effective for helping students learn to type in English and improve their pronunciation. Some examples of the use of repetitive mode include the programs that record the students' voices as they are prompted to repeat words in the target language. The students' recording can then be played back with the model pronunciation available as a comparison. In this way, the students can hear how close their pronunciation is to the model. Simulated situations, such as buying food at a grocery store, are also available in the repetitive mode. The program repeats the situation as many times as the student wants it repeated.

The exploratory mode, in programs such as SIMCITY (Wright, 1989), helps students increase their vocabulary and can be used in group situations to promote interactive communication and oral and written fluency. Some of these exploratory mode software programs take advantage of simulation gaming methodology. In fact, Crookall, Coleman, and Versluis (1990) stated that ESL teachers often discover simulation gaming methodology as they become familiar with computers in language

learning, a scenario that described my introduction to simulation gaming as a viable method of instruction for ESL.

Serving as a volunteer at a local elementary school, I saw students playing OREGON TRAIL (Copley, 1986) during their weekly computer time and thought that this game and others like it would motivate my ESL students to interact in English with the computer and other classmates joining them in the game. I tried the computer games on a group of ESL students, and as they discussed options and decisions for the game, the gradual recognition that this method would also work without computers developed.

The cognitive mode programs, like invention heuristic templates, require more active participation than those in the previously discussed modes and tap into the students' prior or recently gained knowledge, demanding answers or solutions. A simulation like FISHBANKS provides an example for this mode. Because Crookall, Coleman, and Versluis (1990) emphasized that computers should be servants to the objectives of the instruction and not the other way around, the cognitive mode of computer programs works well. For example, a simulation that utilizes the computer between rounds of play to calculate and report the results of the players' decisions makes optimum use of the availability of computers to foster communication and language development through simulation. Another example of a program in the cognitive mode is a conversational simulation program called TERRI (D. W. Coleman, 1990), which makes use of low level artificial intelligence to create a conversational simulation that allows the user to solve a problem as information is

revealed through interaction between the computer and the player. Under most conditions, more interaction yields higher recommendations from teachers whose purpose is to expand the use that students make of language.

The reconstructive mode includes programs, such as the locally produced software called "Parlance" (Remington, 1989), that model correct answers and provide practice activities, following the pattern of traditional ESL teaching: presentation, practice, activity. Many programs distributed for ESL fall into this mode. However, in contrast to the programs in the repetitive mode, the practice activities and interactive elements in the reconstructive mode do not necessarily result in the mundane exercises which often consist of unrelated sentences containing errors of the grammatical principle under consideration. Some of the recently available programs have alternative activities, giving the students control over the type and mode of their own learning tasks. As an added bonus, most programs in the reconstructive mode no longer buzz annoyingly, embarrassing students who dared to select a multiple-choice item that the computer was programmed not to accept. Also, the advancement in graphics has revolutionized this mode of computer assisted instruction.

These examples from the four modes of computer assisted instruction illustrate that the wide variety of software applications available today can be utilized for many instructional purposes. If interaction is the goal, as it is in communicative language teaching, software can be used to encourage or even require it, and at the same time that students are increasing their fluency and improving their writing skills, they are

also learning an increasingly requisite technological skill--computer literacy.

In addition to the currently abundant commercially produced programs are the teacher-produced programs which can be accomplished with step by step creation packages or hypercard applications. These creation packages are especially useful in the development of simulation. For example, vocabulary required for the completion of tasks embedded in the simulation can be introduced with these programs. Some personalized lessons are not difficult to create at all, merely requiring customized word lists from teachers which will be keyed into vocabulary programs or specific questions that can be asked in the invention strategies programs. An example of a program that has this type of capability is "Word Attack."

In addition to the use of computers to assist in instruction by presenting new information, by providing opportunities for practice using that information to solve problems, and by encouraging interaction, the word processing utility available with computers has the capability to encourage revision because of the ease in textual modification. This ease in making revisions has been a factor in making computer assisted instruction and the use of word processing more popular with writing teachers and students of writing.

To investigate the uses that ESL writers made of word processing, Collier (1987) did case studies of three non-native college students who used CAI and word processing to write essays. She found that one student used the computer to generate ideas, one to edit, and one to accomplish novel tasks only possible with a computer. Her conclusion was that the three individual students varied in their uses of the

computer, as had the native speaking students in Bridwell's study, but that the subjects all appeared to be motivated by the addition of the computers to their writing instruction. This motivation enhancement was another attraction for the incorporation of computer technology into writing instruction.

Other motivational benefits resulting from CAI affect teachers as well as their students. Taking advantage of the interest that is inherent in a new experience, especially an experience that causes the uninitiated to be instantly impressed and the experienced to become instant friends united by a specialized jargon (computerese), appears to be an easy way for teachers to create excitement in the classroom, thus motivating the students. The fact that the teachers are also learning and teaching something new keeps their interest and enthusiasm high which, of course, transfers to the students. Also, the focus on the computer as a means of communicating a message can divert the attention of the students from the learning of a language to the transmission and negotiation of meaning, which is currently believed to be beneficial in SLA and provides more motivation for the students to use the language in authentic interaction.

The interaction and negotiation of meaning made possible through local area networks and internet access has revolutionized the field of education, and ESL teachers especially must keep pace with this trend toward global communication. The students are able to connect not only with their teachers, but also with other students--even students who are geographically dispersed--thereby allowing interaction and sharing among students and teachers instantaneously in real time or more conveniently

in suspended time. The writing process has been streamlined with this form of instant communication, and concerns about student isolation at computer work stations have been rendered unnecessary. In fact, with the technology developing for access to the information superhighway students' work stations have been connected to the world, providing the opportunity for teachers to introduce a practical and extremely useful skill to their students, who at the same time will be producing an abundance of text, the goal of any writing class. Some benefits from this specific type of computer instruction are inherent in the use of computers for writing instruction, and some are specifically related to the use of internet technology, including internalized motivation, increased focus on communication, and expanded teacher-to-student and student-to-student interaction. Also, the implementation of this technology in the ESL class provides an instant lesson in vocabulary, computer jargon and the language of the internet.

Teachers who attempt to meet the needs of their students want to be a part of helping students learn and take advantage of this new avenue for communication. That goal often can not be accomplished by maintaining traditional teaching methods, but change should be made judiciously. Collins (1985) warned teachers about the possibility of confusing students with computer jargon and the subtle lure of technological sidetracking. The vocabulary of the computing world can result in frustration for students if teachers mix the terminology during the introduction of the activity. For example, the monitor may also be called the "screen." Teachers should be consistent when referring to the parts of computers or the processes, and the

writing processes should, in Collins' (1985) opinion, take precedence over the computer processes. For example, he suggests using the term "writing," not "inputing data." This terminologically inspired problem of a decade ago exemplified the danger that faced teachers who were embracing the changes in teaching methods brought about by technology.

The interceding development and use of electronic mail has now popularized additional terms, for example "composing," which is used to refer to the writing task (Warschauer, 1995). Students using the current technology differentiate between the terms "post," "compose," and "write" in the following manner. To them, "post" refers to the act of sending a message to a group (more than one person), and the "poster" refers to the person who sends the message for the group. The term "compose" means the task of creating the message, either collaboratively or individually. The term "write" is used when the students refer to the necessity of returning a message, as in the expression, "Should we write them back today?" Undoubtedly, the commands for the programs used to interface with the computer systems influenced these referential practices; however, it is fascinating to see how the concerns of a decade ago have changed due to the advancing technology.

With any form of computer use in writing instruction, the classroom situation becomes decentralized (Rodrigues & Rodrigues 1994), thereby making the classroom goals part of the agenda of the students as well as the teachers. Because this trend is encouraged in the ESL literature, the adoption of a computer component in writing curriculum becomes beneficial in another way--by decentralizing the classroom. The

agenda, however, can still be manipulated by the teacher. Hawisher and Selfe (1994) present a scenario projected from CAI observations in which the teachers eavesdrop on the electronic communications of their students. Ostensibly, teacher surveillance is carried out to find ways to give students credit for contributions to the collaboration and is therefore the result of institutional requirements for student evaluation, but the effect of this surreptitious monitoring causes student self-censorship and works against decentralization of control. The problem of grading is mired in the students' right to privacy. One way to combat this effect is to use simulation for internet projects and to request that students send copies of only specified correspondence to the teacher. The simulation allows the students to interact under a defined role, creating discourse that is safer to share with other students and the teacher. Then students can exchange messages that are not required for grading purposes freely without worrying about sending copies to the teacher.

Another temptation for teachers implementing computer assisted instruction into their syllabuses may be to teach the students too much about the technology and not enough about writing, which after all is the purpose for the composition class. There is no longer a necessity to explain the parts of the computer as Lindemann and Willert (1985) suggested be done at the beginning of a course utilizing word processing. Most students have become accustomed to computers already. However, if many of the students in a class happen to be neophytes, a very brief explanation with illustrations about the basic parts of computers may help to assuage their concern about direct contact with the machine. Too much attention to the technical parts is

not warranted. Overloading students with information is worse than not providing enough. One of my colleagues, an experienced writing instructor who began using computerized composition instruction in 1986, stated that in his years of experience with computerized writing classrooms, the students had done better and been less intimidated when they learned through experiential use in the performance of tasks, rather than being provided with lists of instructions in lectures or reading assignments. Schank and Abelson (1977) had discussed this aspect of experiential learning in their episodic view of memory and its role in mapping new experiences onto existing ones and consolidating similar experiences into scripts. This view of memory supports the use of computers and simulations in education as they both contribute to the time that students spend actively engaged in accomplishing tasks instead of listening passively.

In order for teachers to initiate students into a new approach to ESL composition and the use of computers, preparation and careful applications are required. Hawisher and Selfe (1994) warned teachers not to think that any and all use of computers is noble, but to use informed judgment when integrating computer assisted instruction into their writing instruction. One way of integrating computer use into the writing class is with simulation, which can be used to encourage the production of discourse in ways that may not be as threatening as traditional methods that focus on correctness. ESL teachers must decide what roles correctness and content will play in their instruction. Balancing these two aspects of writing is not easy; however, the dangers inherent in the emphasis on correctness without regard to

content may result in the lack of fluency and possibly even debilitating anxiety associated with writing.

*The Effects of Writing Anxiety*

Anxiety plays a role in writing, which the use of simulation may be able to lower. Rose (1980) reported that anxiety can lead to writer's block, rendering students unable to produce any language. For ESL students, the anxiety is compounded because the writing must be done in a language other than the native language. The goal of lowering anxiety levels for student writers propelled the change in the field of composition and rhetoric from emphasis on product to emphasis on process (Hairston, 1982). Along with the process revolution in writing instruction for native speakers of English also came peer editing and writing samples that included student writing as well as professional writing. The writing models of peers provided student writers with a more realistic comparison for their own writing. During the product phase, when only professional writer's models were used, the social comparison level was too high, creating anxiety and even writer's block for many students. ESL writers face the same unrealistic comparisons when product is emphasized over process, but some methods of writing instruction may help relieve the anxiety that results due to social comparison.

In addition to social comparison, other variables must be considered when attempting to isolate the source of writing anxiety. Investigations into the effect of writing anxiety on ESL students (Gungle & Taylor, 1989) have been based on the research conducted with native English speaking students (Daly & Miller, 1975a;

Daly & Miller, 1975b; Daly & Shamo, 1978) in which the relationship between high levels of writing anxiety and the desire to enroll in additional writing courses or select major fields based on the amount of writing perceived to be required were studied. Findings from writing anxiety studies conducted with native English speakers revealed that there was a significant relationship between writing anxiety and students' decisions to enroll in writing courses, and between writing anxiety and students' selections of major fields of study. According to these researchers, writing anxiety affected the lives of these students, both native and non-native English speakers, causing them to make choices merely to avoid writing, such as not to advance toward educational or career goals that require writing.

Lu (1992) and Heath (1983) contend that anxiety is inherent in the struggle that students wage as they acculturate themselves to meet educational demands. Lu pointed out that in the cultures of some ESL students, orality may be valued over literacy, causing increased anxiety during the requisite move forced by educational dependence on writing. Heath found this same type of situation faced native English speaking students in the Piedmont Carolinas. Their ways of behaving in communicative interactions differed from the behavior expected in their school even though the school was only a few miles from their homes. These cultural interferences demonstrate that writing anxiety is based on cultural background. Another facet is presented by Raimes' (1991) claim that some methods of ESL writing instruction, for example grammar-based instructional methods that value correctness over content, have produced debilitating anxiety.

With so many factors contributing to and resulting from anxiety in learning situations, it may be impossible to help ESL students overcome it and its effects; however, researchers have not abandoned the goal of isolating its causes. In addition to following up on the studies conducted with native English language writers by examining the effects of writing anxiety in ESL students, Gungle and Taylor (1989) attempted to find a relationship between focus on form in ESL writing instruction and writing anxiety. Unfortunately, the results from this study did not show a significant relationship between focus on form and writing anxiety that the researchers believed to exist due to interviews with ESL writers (Zamel, 1983; Taylor, Johnson, & Gungle, 1987 qtd. in Gungle & Taylor, 1989).

One problem, which may have caused the lack of significant relationships expected in the Gungle and Taylor study, especially between focus on form and writing anxiety, is that the variability of the subjects selected for the survey was not adequately investigated. Although Gungle and Taylor stated that in both of the studies that they conducted, "two separate one-way analysis of variance tests revealed no significant differences in level of ESL writing anxiety across languages nor across level of writing course" (1989, p.242), the differences in ESL writing anxiety may lie not in language background, but nationality. For example, students from Malaysia may list Malay, Chinese, Tamil, English, or even another language or dialect of Chinese as their first language. In addition, their technical "first" language may not be the one in which they are most fluent. The language that they learned "first" may have been a dialect used at home which they now used only in communicating with

some family members.

As Heath (1983) showed in her ethnography of the two communities existing only a few miles apart, differences in culture, and thus in communicative interaction, are influenced by child socialization occurring within the family and the community. For example, Malaysian children may differ in the language of instruction in their schools, depending on whether they attended public or private schools. Also, the *lingua franca* of general use depends on the area in which they lived and the people with whom they associated--their community. If the language is spoken more frequently in the students' community, then the anxiety should be lower when using the language due to the increased use of and familiarity with that language.

According to informal interviews conducted by this researcher with ten Malaysian students, languages such as Malay, English, Tamil, and numerous Chinese dialects can be used in Malaysia to communicate; in some cases, more than one language is used in a single conversational exchange, a sort of combination of all of the languages that the interlocutors know. Under almost any living situation in Malaysia, students who come from there will have had more exposure to English than, for example, students who come from Taiwan; yet many of these students from Malaysia and Taiwan will undoubtedly both list Chinese as their first languages and be grouped together for statistical analysis because of their language background. This situation seems to have been the case in the Gungle and Taylor (1989) research report under discussion in which twenty-two students in their first study and thirty-three students in their second study reported Chinese as their native language with no

indication of their countries of origin.

If the writing apprehension level depends on "differences in cultural and/or language backgrounds" (Gungle & Taylor, 1989, p. 240), then both variables should be considered and tested for significant differences before any other analyses are conducted. Language background cannot account for cultural differences in all cases. The subjects' nationality, primary language of instruction, and language in which they consider themselves to be most fluent as well as their first language will probably have an effect on their level of ESL writing anxiety. Therefore, these variables should be controlled in investigations of writing anxiety levels.

The issues involved in the teaching of writing have in common the goal of encouraging students to produce more discourse so that they can learn to use the language. The emphasis is not on usage rules, but on communication. Simulation encourages communication. Some of the other advantages of simulation are discussed in the next section, which traces the motivation for the use of simulation in this study.

## The Advantages of Simulation Gaming

My course in materials design and The International Simulation and Gaming Association (ISAGA) 1994 conference, the capstone experience of that materials design course, which required that we create our own simulations and games, had motivated me, a skeptic at the beginning, to try simulation games with my writing classes. The field of composition and rhetoric had been stressing the importance of audience as a component of writing assignments, and simulation games intrinsically

provided that audience. Greenblat (1975) had long ago illuminated the link between simulation games and communication, solidifying their position as a pedagogical technique in endeavors to develop communicative competence. Calls in the literature for teachers to reduce the artificiality of classrooms to make learning activities meaningful (Britton, 1970; Breen, 1985; Krashen & Terrell, 1983) and decentralize the power structure of the educational experience in order to give students more control over the propositional content, involving them in active learning and providing opportunities for uninhibited practice (Ellis, 1985) also contributed to the justification for using simulation.

Simulations may also be responsible for lower anxiety levels in the classroom during the performance of communicative tasks. One reason for this lowered anxiety level may be the result of the reduction in teacher talk in simulation gaming methodology. Gardner and Lalonde (1990) proposed that this lowering of anxiety occurs due to Festinger's (1954) social comparison theory, which posits that the natural tendency of humans is to compare their ability with others. Students in traditional language classes usually judge their own ability against the language teacher as their predominant interlocutor; however, simulation participants, who usually have other students as interlocutors, are more inclined to compare their ability with students, a more equitable comparison, which Gardner and Lalonde believe would reduce anxiety levels, thus lowering the affective filter (Krashen, 1985) and promoting language acquisition.

In fact, Geddes, Sturtridge, Oxford, and Raz (1990) so enthusiastically

supported simulation gaming as a method of teaching second languages that they recommended using the method to train prospective teachers, thereby allowing them to participate and practice the method that they would ostensibly use in their own classrooms. Geddes, et al. (1990) proposed this plan on the grounds that the method stimulates meaningful communication among students by supplying a reason for interaction, the goal of communicative language teaching and the link between classroom and naturalistic language acquisition. This link between naturalistic learning and classroom learning had been the motivating force behind communicative language teaching.

Even though the communicative language teaching approach supported simulation methodology, the battle for acceptance had still not been won. Because the traditional approach had been the default method, established through decades of use in educational institutions, justification for its use had not been required, which perhaps is unfortunate, but nevertheless presents the reality of the situation. As Petranek (1994) revealed in his seventeen principles arrived at by twenty years experience with simulation and gaming, "It takes a great deal of courage to initiate a new teaching style such as simulation"; he encourages those new to the methodology to "take a leap of faith to start" (pp. 514-515).

Entwistle (1990) cited institutional factors, such as teacher training and the architectural design of classrooms, as factors in perpetuating the traditional methods. Greenblat (1973), Crookall and Oxford (1990), and others have noted this unfair situation, which requires any methodology that challenges the traditional to prove its

worth. However, due to the present state of circumstances, some background information about the uses of simulations and an explanation of reasons for the choice of simulation gaming methodology is mandated.

Simulation as an instructional method is suited to the learning centered classroom because its use helps reduce student inhibitions and facilitates meaningful communication (Crookall & Oxford, 1990). Simulations have been used as techniques in the practice of many communicative methods, including the Dartmouth (Rassias) Intensive Language Model, which has a simulation component in its intensive program that was composed of audiolingual drills, grammar exercises, and lectures. One simulation involved a faked heart attack episode that encouraged students to speak in order to help the "victim" (Rassias, 1983). Lozanov's (1979) Suggestopedia includes role-play, drama, and games to lower the level of anxiety and stimulate interaction. Total Physical Response (TPR) uses actions simulating reality to link muscle memory and cognitive processes (Asher, 1977). The Natural Approach integrates TPR and progresses to problem solving tasks that sometimes incorporate simulated situations (Krashen & Terrell, 1983).

Tasks can be strategically integrated within simulations to accomplish a variety of goals. Macdonald (1990) used simulations to create a situation in which students were placed in a position to practice polite disagreement, compromise negotiation, and persuasion techniques. Although Nunan (1989) stated that tasks could be either real-world or contrived pedagogic activities, Knowles (1984) argued that the closer to real-world applications that learning tasks appear to be, the better reception they will

receive from adult students. Knowles suggested moving away from pedagogy to andragogy, a student-directed form of learning, in which the students' experiences are valued and utilized as part of the learning process. Blank (1992) set up a system in which andragogical activities could be planned to correspond to the real-world, yet at the same time take into account the progressive nature of learning. Andragogical activities can easily be realized through simulation gaming, especially if they are designed to increase learner involvement in the experience.

Crookall (1984) emphasized that simulations provide a situation in which participants become involved to the point of forgetting that they are learners, a major goal for language acquisition according to Nunan (1989). Nunan (1991) also argued that learner involvement should be encouraged by increasing learner input in defining the goals of the activities. Simulation games elicit this involvement from students as the activity is student driven; furthermore, during debriefing, the students nominate their own topics, and, closely correlated with Nunan's steps for increasing learner involvement, they first become aware of salient goals specified by content, then select from alternatives, then modify goals to fit their own circumstances or create personal goals, and finally transcend the classroom to make connections with real-world situations. Of course, this process requires time to evolve, and the time required varies with individual students. Tarone (1983) pointed out that second language acquisition is also a lengthy process, involving the gradual reduction in non-target language variants in an increasing number of environments. Often the benefits are not realized during the traditional educational measure of a semester. Herein lies one

of the problems for educational simulation gaming.

## Criticisms Aimed at Simulation Gaming

In fact, simulation as used in educational settings has met with quite a lot of criticism for several reasons. As discussed previously, defining it has caused misunderstandings and benefits are often not realized as quickly as with some other methods. In addition, the history of the use of simulation gaming has affected its current reputation; the student participants of simulations appear to be having too much fun to be learning anything; and simulation gaming methodology has so far defied attempts to measure its effectiveness empirically, especially within the time table imposed on educators. These criticisms require amplification and explanation to help illuminate the problems faced by practitioners who adopt the simulation gaming method of instruction.

One problem for simulation gaming methodology evolved from its misuse by some practitioners in an earlier run of popularity. Attempts to enliven education during the early 1960s led some academics to create games and simulations (Rolfe, 1991). Supported by Dewey's advocacy of active learning and Piaget's model of learning as rendering abstract concepts concrete (Sullivan, 1967), these early creations contributed to the move toward experiential methods of instruction during the late 1960s and early 1970s. In fact, enthusiasm for these simulation games ran so high that they began to be used indiscriminately, becoming the victim of Kaplan's (1964) "Law of the Instrument," which Kaplan paraphrased in this way: "Give a small boy a

hammer and he soon discovers that everything needs hammering" (qtd. in Rolfe, 1991, p. 99). This phenomenon as it relates to the history of simulation gaming has become so well-known that authors of subsequent articles, such as Lederman (1994), have used parts of Kaplan's paraphrase as titles.

Improved computer applications during the 1980s and 1990s served to drive the continued use of simulations during the time that its use was not as popular due to the ebb and flow of method popularity. However, even during the period when overuse was overtaken by optimal use, simulations were never excluded from the arsenal of ESL teachers although most college instructors traditionally follow the lecture, reading, and discussion method of instruction, with simulations saved for sporadic use during the extra time when nothing really important needs to be transmitted. As discussed previously, many methods utilize role playing as components, but simulations are mainly viewed as isolated procedures, unassociated with any particular approach and therefore not grounded in theory, but simply brought in to liven up a class period or two during the semester; they appear to be too much fun to use as the basis for an entire course. This view may be due to the way in which many ESL teachers failed to properly frame simulations through the use of debriefing.

Lederman (1994) stressed that the debriefing period after the simulation game contained the seriousness and that the fun-induced freedom felt by players during their participation contributed to the effectiveness of the method as a conversational motivator by suspending behavioral self-consciousness and allowing students to fully

express themselves. She further contended that the problem for many people who have witnessed or led simulation games and been disappointed in the results was that they gave short shrift to the debriefing, thereby losing any instructional value derived from the procedure. She contended that the fun derived from the activity instigated introspection only when the students were actively engaged in their own learning and encouraged to understand the simulation game as a practice tool for real-life. Although some studies showed no significant differences in learning or specific attitudes, such as the attitude toward government officials, between simulations conducted with debriefings and those conducted without debriefings (Livingston, 1970; Chartier, 1972), these studies did show that participants' perception of satisfaction with the learning experience was significantly greater when debriefings were included.

Lederman's contention regarding the importance of debriefing was supported by Anderson's (1983) description of the optimal knowledge level, which he explained was a combination of declarative and procedural knowledge with students maintaining the ability to verbalize their knowledge of the skill. Anderson (1983) expressed his production rule skill-learning theory as the Adaptive Control of Thought (ACT* pronounced "ACT-star") and later changed it to ACT-R ("ACT-ar") to denote the adaptation made by learners to the environment through rational analyses of input and to expand the theory from a single production-rule theory to multiple production-rule theories to account for this environmental influence (Anderson, 1990). Anderson (1993) supported his theory with computer simulation models, which emphasized the

importance of practice in proceduralizing knowledge. In the simulation scenario, debriefing would serve as a link between declarative and procedural knowledge, making the learning that has occurred salient in spite of the fun derived from the experience.

Perhaps because of the element of fun associated with this method, opponents have demanded that the effectiveness of simulation gaming be proven empirically. In fact, proponents would also like to document the benefits of this method, benefits which they realize intuitively (Greenblat, 1975a). However, this quest has proven difficult, and some supporters question the necessity for empirical proof, pointing out that the traditional method, derogatorily referred to as "chalk and talk" and "sage on the stage" methodology by simulation gaming proponents, has not been required to prove its worth (Greenblat, 1973; Crookall & Oxford, 1990).

Supporters contend that simulation gaming results in benefits that are difficult to measure empirically (Crookall & Oxford, 1990; Greenblat, 1975a) and that no proof would be enough to satisfy some critics (Rolfe, 1991). Claims of benefits from simulation gaming include increased motivation and interest in learning; cognitive gains, including recall of factual information, internalization of procedural sequences, and better decision-making skills; the provision of a referent for a future situation or skill, affective learning; changes in classroom structure moving the students toward responsibility for their own learning beyond the influence of the classroom; and improvements in later work as a residual or halo effect of the simulation experience (Greenblat, 1973; Henderson & Foster, 1976).

Even in the face of difficulties in measuring the aforementioned claims, many supporters have continued in their attempts to tease out the variables that will prove the benefits of simulation gaming. They have documented these benefits in qualitative studies and with survey instruments, which illustrate the satisfaction of teachers and students with the method (Greenblat, 1973; Greenblat, 1975a; Rolfe, 1991). They have also shown that simulations can alter attitudes, such as prejudice, through the use of cognitive dissonance brought about through role assignments that place the participant in an unfamiliar position (Williams, 1980). However, empirical, quantitative proof of the actual benefits of simulations in an uncontested study has not been forthcoming. This outcome is not surprising, due to the difficulty encountered in any study attempting to prove one method superior to another.

## Comparative Method Studies

In the field of TESL, Nunan (1991) pointed out that no definitive evidence has been found to support significant differences between methods. Chaudron (1988) faulted comparative method studies for failing to establish links between process and outcome, a problem that could be avoided with a control group and rigorous observation and documentation of the classroom procedures and interaction. Ellis (1994) cited studies by Scherer and Wertheimer (1964) and Smith (1970) in which the grammar-translation, audio-lingual, and cognitive code methods were compared, with the results unable to support significant differences (pp. 569-570). Total Physical Response (TPR), one of the so-called designer methods of the 1970s (Nunan, 1989)

was tested against the Audio-lingual method by Asher (1977), the creator of TPR, who reported greater short and long term retention of new linguistic material and better understanding of novel utterances with TPR, but the study was flawed by the fact that only beginners were studied and total instructional time for the study was only twenty hours.

Most comparative studies have not found significant differences between methods, and it appears as though many of the studies reporting differences were found to be problematic because they were conducted by the creator of the method, suggesting self-interest in the findings. In other comparative studies, questionable research methods have been used, such as the flaws in testing strategies revealed by Scovel (1979) in Lozanov's (1979) experimental data proving Suggestopedia superior to other methods.

Sometimes the problems in comparative studies occur as accidental oversights or discrepancies in implementation of classroom procedures. Palmer (1979) compared traditional and communicative instructional strategies using games to elicit communication among his Thai ESL students and also found no significant differences between those two groups. However, closer examination of the classroom operationalization of the two methods compared in Palmer's study showed that teacher talk confounded the results because Thai, the students' first language, was used for instructions to the experimental group, whereas English was used by the teacher to give instructions and discuss the grammatical concepts in the control group (Krashen 1981).

In further attempts to establish empirical proof of differences resulting from teaching methods, Allen, Swain, Harley, and Cummins (1990) used Communicative Orientation in Language Teaching (COLT), an interactional analysis schedule developed by Allen, Frohlich and Spada in 1984, to rank eight eleventh grade French language classes in Toronto according to their levels of experiential and analytical teaching strategies, a dichotomy created by Stern (1990) to study the realization of classroom procedures and their effects on learning outcomes. The results were disappointing because few significant differences were found. The confounding variable reported was the similarity in the instruction for the two groups who were supposed to have received different types of instruction. This finding is not surprising, taken with the number of other SLA studies which have been unable to show empirical differences between methods.

Another difficulty in comparing methods is illustrated by the Pennsylvania Project, which attempted to measure differences between functional and traditional methods. Clark (1969) revealed that observations of the classrooms supposedly using different methods showed that the experimental and control classrooms appeared to resemble one another. He emphasized the need to know what really goes on in the classrooms under study. Long (1983) echoed Clark's warning, suggesting that classroom researchers ensure the procedural differences between the classrooms under investigation. If the methodology is blended, then the results are confounded, and the obvious result would be no significant difference precisely because there was no significant difference in the methods as they were operationalized in the classrooms.

## Comparing Simulation Gaming with Other Methods

Similarly, in the field of simulation and gaming, studies designed to test the effects of simulation gaming methodology on learning have not shown significant differences between simulation and other methods. Some proponents of simulation suggest that significant differences have not been supported in most of these comparative studies because the tests were not measuring the areas affected by the simulation gaming methodology (Crookall & Oxford, 1990; Greenblat, 1973; Greenblat, 1975b). For example, the tests that were used in some of these studies measured gains in factual information whereas gains in procedural knowledge are more substantial when simulation is used. In addition, varying effects of games on different players also affected the results (Bredemeier & Greenblat, 1981; Fletcher, 1971).

Some of the problems in teasing out the variables associated with gains in proficiency due to the method of instruction included the teacher, the students, and the simulation game itself (Greenblat, 1975b). In simulations, the students play a greater role in the outcome of the lesson than in traditional methods of instruction. Teachers relinquish control to the students during the actual simulation experience. Depending on the personality of the teacher, control varies during the simulation and the debriefing. For example, in playing BAFA BAFA (Shirts, 1977) with David Crookall, an experienced simulation gaming facilitator and a researcher respected in the field of simulation gaming, I was surprised to experience the amount of control that he displayed in the debriefing sections of the simulation games. The experience

of that game on that day provided a different experience than in my previous participation in the same simulation when it was conducted at the University of Central Oklahoma during the Multicultural Institute. The facilitator did not display as much control in eliciting responses from the participants, and the debriefing was much shorter than when Crookall led the simulation. When participation in the same simulation provides different experiences each time, measuring effects is difficult.

Such different experiences were explained by Greenblat and Gagnon (1979), who discussed the "multiple realities" created during simulations, realities that can be different for each individual participating in the simulation as well as each time that the simulation is experienced. Experiences vary due to circumstances that can be observed, such as the role assumed or assigned, and circumstances that cannot be readily observed, such as the personalities and even the moods that the participants bring to the experience. Of course, traditional educational experiences are also affected by these variables, but because they are "traditional," the effects are not judged so closely. No one can determine exactly what each individual takes from any experience, not even the individual in question. Even in traditional methods that force the point of the experience through explication and repetition, the reception of that point unaltered from its original form cannot be assured.

The question of making the point of the educational experience salient becomes moot upon examining some motivations for the use of simulations. Bredemeier and Greenblat (1981) revealed that some practitioners of simulation gaming methodology believe that the reason for using simulations was "not to have a specific point,"

thereby rendering comparisons with other methods impossible (p. 309). In the age of assessment and accountability for teachers and students, this alternative is not practical. Most simulations used today have been created to achieve a certain goal, with built-in areas for modification; therefore, the idea that a teacher can approach the learning situation without an intentional outcome in mind seems ludicrous. The advantage of simulations is that the students arrive at the point on their own through experience, not by being told--a less effective delivery device. For example, Moder and Halleck (1995) used simulation to allow their students to play the role of teachers in order to help them discover through their own experience how to detect and avoid plagiary. This role reversal resulted in the students' increased awareness of documentation of source material in their own writing.

Although the teacher and student roles are not drastically altered from traditional practices in simulation gaming methodology, the roles of learners and planners of learning are interactive and control is shared. In leading my first simulation in a graduate course in which my peers were playing the roles of my students (a sort of simulation within a simulation for teacher training), I felt the control of the activity slip away, a frightening experience for the anointed leader of the classroom. When introducing a simulation, a facilitator must generate enthusiasm at the beginning, a feat best accomplished by an aggressive personality, and then control must be relinquished to the students so that they take responsibility for the development of their own roles. An uncomfortable vacuum of power often accompanies this transfer. Being in control and staying in control is easier than

sharing and transferring control; moreover, the predictability accompanying that control is comforting. However, the teacher's agenda may not address the needs of the students as well as a shared agenda. Granting the students latitude in carrying out their roles results in shared agendas and may bring the students to recognize for themselves that they need to acquire particular linguistic and sociolinguistic competencies in order to fulfill the responsibilities of their roles. Thus, shared control and shared agendas may help students notice the gap between their level of proficiency and the level of proficiency that they need to communicate clearly.

Experience is necessary in order to meet the requirements of the teacher role in simulation gaming methodology. The teacher must be able to take, share, and transfer control at appropriate times in order to lead the students in a productive simulation. This fact was apparent upon witnessing Crookall's leadership during his visit at Oklahoma State University, in participating in simulations led by seasoned administrators at the International Simulation and Gaming Association's Convention, and through personal experience. The simulation experience, and thus the outcome, is definitely affected by all participants and all environmental variables, making investigation into the effectiveness of the method difficult, but not impossible.

The simulation can itself present several problems in measuring outcomes. Designing simulations for specified outcomes appears to be the only way to ensure successful measurement. Orbach (1977) suggested that the roles for the simulation be designed to elicit the type of behavior expected to be reinforced to meet the intended goals. Boocock (1972) emphasized validity testing of simulations to be certain that

they represent the reality that they purport to model. Lester and Stoil (1979) suggested a classification based on the dichotomy of association with reality, in which simulations are categorized either "role-specific" or "role-general." In their system, role-specific simulations would enhance factual learning, and role-general simulations would be reserved for comprehension of general relationships requiring more inductive transmission. A study comparing their use of a role-specific simulation created by them to model a situation in political economy and a control group taught without simulation resulted in higher course evaluations and scores in tests of procedural learning for the simulation group and higher scores for the control group in factual information recall. These results did not support their contention that factual learning would be enhanced by specific types of simulations. Instead the results mirrored the usual findings: simulations excel in the transmission of procedural knowledge.

In addition, similar to second language acquisition methodology comparison studies, many of the simulation game studies have been shown to lack experimental integrity (Greenblat, 1973). For example, Greenblat revealed that some studies included only post-testing, making the claim of improvement through the use of the method impossible. Other studies sampled non-students or students out of their roles as students--at conferences for week-ends. Greenblat argued that the relevant sample should be students in their classes if the study intends to make claims about teaching and learning. The practice of combining subsamples to create numbers large enough for statistical analyses was also criticized by Greenblat.

As in communicative language teaching, researchers in the field of simulation gaming have investigated the issue of grouping strategies and the effects of group member identification on the outcomes of simulations. Grouping methods posed a problem for Gentry (1980) when his study revealed a positive relationship between group size and agreement among group members but no relationship between simulation performance and size of the group. He found that performance was improved through leadership, thus the larger groups had more possibility of drawing a strong leader. Greenblat (1980) called attention to the tripartite role of group members: simulation players, role enactors, and students. The interaction of these roles affected how the students reacted at different points in the simulation. Remus (1981) examined the attitudes resulting from being in the winning or losing group as denoted by role assignments or occurring as the residual effects of the simulation. He contended that these outcomes contributed to uncontrolled error in the research and may have caused inconclusive results. Brand (1980) studied grouping of fifth-graders using simulations and found that learning did not correspond to grouping variables. Although Norris and Niebuhr (1980) in studying cohesiveness and group performance found a significant correlation, they suspected that the cohesiveness came about as a residual effect, especially for the winners. They found no difference between voluntary and assigned group membership, so the question remains whether teachers should let students self-select for groups, randomly assign group membership, or assign according to some predetermined variable.

In one of few studies directly related to the effects of the use of simulation on writing proficiency, Troyka (1973) investigated the effect of simulation as an additional component in remedial writing courses for native English speakers at the college level. Instructors in twenty-five sections of the course used conventional methods to form the control for the experiment. Instructors in the other twenty-five sections used conventional methods in addition to four simulations based on the topics of prisoners' rights, ecology, cultural differences, and city zoning disputes. Intact class groups were used, but the sections became part of the control or experimental methodology through random selection. The study included pre- and post-tests. Instruments of measurement were writing samples, scored holistically with a 1-4 range, and the English Expression section of the Standard Test of English Proficiency (STEP) test. Results of this study revealed that students in the experimental sections scored higher on all measures than those in the control sections.

There were several problems with Troyka's study. First, the simulations were additional experiences. The students in the experimental group who used simulations also received the same treatment in class as the control group did. Perhaps any additional activity would have resulted in the higher scores for the students who participated in it. Second, the groups were taught by different teachers. This difference in teachers might have been the factor in producing students with higher scores. In fact, one of Troyka's findings revealed that the students of female teachers performed better than the students of male teachers.

Although this study used simulations as an added activity, and students in the experimental group received both treatments from different teachers, it served as a foundation for further studies of the effect of simulation gaming on writing instruction. Furthermore, the simulations that were created for this study were later developed into a book that serves as a guide for others in using simulations to enhance writing proficiency (Troyka & Nudelman, 1975).

Cumming (1984), also involved in research concerning the effect of simulation gaming on writing proficiency, designed a two-week group simulation for six university level ESL students that required the students to compile data, present oral and written documented reports, conference with peers to edit drafts, and present a final joint report produced from collaboration. In contrast with Troyka (1973), Cumming was not measuring differences between groups; instead, he was examining the types of tasks that simulation required the students to perform. He found that his students assumed roles such as information seekers, compilers, composers, and editors, which they could relate to actual written assignments that they might encounter in the real world. Cumming had blended the process approach to composition instruction with role-playing to create the simulation, resulting in as he put it "a methodological perspective" that "focussed student attention on a single project consisting of various tasks which appear to have encouraged individual development in writing" (p. 85).

Cumming's (1984) concern was not in measuring gains, but in observing the kinds of tasks that students encountered in the activity. If this single project designed

to meet the needs of these six students had served to focus their efforts, then perhaps a semester-long project in which the students could extend their roles enough to become comfortable with them might work even better. The issue concerning the length of time that a simulation should run is discussed in the next section.

## The Element of Time in Simulation Administration

The question over the length of time that a simulation should be conducted was a concern during the creation of the simulation for this study. Slimani's (1989) study on learner uptake of target language input suggested that the effect of other students introducing and sustaining topics was more responsible for learner uptake than either the participation of the learners themselves or the negotiation of meaning. This discovery revealed that students who became comfortable in a role could positively influence other students, and perhaps encourage their peers' intake and uptake of the language being produced, although it was not the focus of the activity. Because the purpose of the communicative language teaching approach is to foster communication, the increase in intake and uptake provided further support for allowing students a full semester to establish and develop their roles.

Elder (1973) argued adamantly that simulation could not stand alone as the central methodology of a course of study. Petranek (1994) had worked up to teaching an entire semester with simulations; however, his simulations were individual simulations presented consecutively, not designed for the students to keep the same roles for the entire semester.

In fact, the simulations in most studies had been short-term, lasting three to five hours and completed in one day, never exceeding more than two weeks. Therefore, precedent had been set for the successful use of simulation as a component, while the use of simulation-gaming as a method that would control the entire course has not received full acceptance. Perhaps because blending techniques seemed safer, the eclectic approach protected those teachers from subsequent discoveries proving today's accepted technique ineffective.

For ESL students, it seems that switching roles for each new simulation would be a greater burden. Students need time to discover their roles. Greenblat (1975a) argued that role-playing and simulation are distinguishable because simulation involves all of the students, allowing none to be passive. She points out that many role-play activities often involve only several students, rendering the others merely observers. In addition, she says that simulations stimulate more interaction and more decisions on the part of the students. My experience with conducting simulations has revealed that the information that students find on their own is used in their recitations and comments more than information that is given to them in the role descriptions. Also the understanding that may result from the long-term role assumption in simulations might produce deeper thinking and make the students more comfortable taking chances--a requisite that Naiman, Frohlich, Stern, and Todesco (1978) believe essential for second language acquisition.

Elder's (1973) argument for not allowing simulations to stand alone as the basis on which to build a course of instruction was based in part on the expenditure of

instructional time, a precious commodity in any course, involved in preparing the students to participate in the simulation. With consistency in roles for the entire semester, that time would decrease because students would not be faced with changing roles every day or even every two weeks. Also, with long-term roles, time that would be spent gearing students up for new simulations and roles could be reserved for debriefing, a part of the simulation process which has been proven over time and through research to be essential for successful implementation of the method.

Elder (1973) cited another reason for not supporting simulations as an independent form of instruction: the fear that students may fail to recognize the larger implications of the experience, missing entirely the objective of the simulation. If there is more time for reflection, as would be possible with a long-term role, and more time for debriefing activities, then this criticism would be rendered invalid. In fact, Lederman (1994) claimed that the most explicit learning occurs after an experience, not during it. She compared this phenomenon to simulations, referring to the analogies that students make between the simulations and real-life situations as "aha's" and stating that former students have written or telephoned her years after the simulation experience to tell her that they are still drawing lessons from their participation in the simulation. One of the reasons that specific educational gains are so difficult to measure and verify in simulation methodology is this "aha" outcome. Benefits from the simulation may not appear until later, when measurement becomes impossible and other variables that intervened in the meantime could not be controlled (Greenblat, 1973). The implementation of longer simulations may help in measuring

some of these delayed benefits because the research instruments would not be administered until the end of the semester. In most studies comparing simulation with other methods, the tests were administered immediately after the simulations, which lasted only two weeks at the most.

However, studies designed to test the effects of a long-term simulation on ESL students have not been conducted. Nor has a study been done to determine whether the writing competency of ESL composition students differs when simulation gaming methodology is used for an entire semester in place of another methodology. Troyka's subjects for her 1973 study were native-speaking composition students, and she had used simulations as additional activities for her experimental group, not as the principal method of instruction.

The question that appears to be unanswered is whether completely changing the method of instruction in a composition class to simulation gaming for an entire semester, reflecting the communicative language teaching approach, would affect the students' perceptions of the class or their writing performance. In the next chapter, I will describe the methodology for the study that I conducted to answer that question.

# CHAPTER THREE

# METHODOLOGY

The purpose of this study was to examine the effects of the method of simulation gaming on a group of ESL students who were studying English composition. A control group of students continued to use the traditional methodology. The method of simulation gaming was used with the experimental group in an attempt to operationalize the communicative language teaching approach with a task-based syllabus design that outlined procedures for interactive communicative tasks to be accomplished during each class. This simulation gaming method was contrasted with the control group's instruction, which, as described with Richards and Rodgers' (1982) schematic analysis, followed the traditional method of lecture, reading, grammar exercises, and discussion, which together operationalized the discrete item approach with a grammatical syllabus design that outlined procedures for exercises to be carried out and concepts to be learned during each class.

I used pre- and post-treatment administrations of the *Simon and Schuster Test of Writing Competency* and pre- and post-treatment writing samples to gather data for empirical evidence of changes in both group's writing performance. In addition, I used two surveys to investigate any differences between the experimental and control

groups in the levels of writing anxiety that they experienced and differences in their perceptions of the instructional effectiveness of the course. The major variables in this study were as follows: group (control and experimental), pre- and post-treatment objective test scores, pre- and post-treatment writing sample ratings, pre- and post-treatment writing anxiety survey scores, and instructional survey ratings. The data were analyzed using Systat, with the alpha (probability) level set at $p < .05$.

## Overview

The study was conducted at the University of Central Oklahoma, a liberal arts college, which had a population of 16,039 students when this study was conducted during the fall semester of 1994. The University of Central Oklahoma (UCO) consistently has a large number of commuters due to its location in the moderately large southwestern metropolitan area of Edmond, Oklahoma. At the time the study was conducted, the UCO News Bureau provided the following information concerning the student population at UCO. The university population consisted of students whose average age was 28, and that 43% of the student body was over 25 years of age. The students at UCO that semester came from 39 states and 85 countries. The international student population was 1,249, comprising 8% of the student population. Of those 1,249 international students, 365 came from Malaysia, 265 from Taiwan, 100 from Pakistan, 63 from Japan, 61 from Thailand, 56 from Indonesia, 50 from Korea, and 29 from Hong Kong. The other 260 students came from the remaining 77 countries represented at UCO that semester.

## Subjects

The subjects for this study were 50 students who had enrolled in two sections of freshman composition for international students (all non-native speakers of English) taught by this researcher during the fall semester of 1994 at the University of Central Oklahoma (UCO). The matriculated students were required to have a score of 500 or better on the Test of English as a Foreign Language (TOEFL) or to meet the Oklahoma State Regents' alternative requirement of a minimum TOEFL score of 460 plus three months of study at a certified language school. The sheltered sections of the composition courses substitute for the regular entry-level composition courses required of native speakers. The amount of required writing and the assessment procedure followed departmental guidelines in effect at that time. The students were required to submit the equivalent of eight essays of 500-700 words per semester, and for assessment of the writing program, pre- and post-tests, prepared by Prentice Hall to accompany the *Simon and Schuster Handbook for Writers*, were administered during the first and fifteenth weeks of the semester. In addition, two writing samples, written on assigned topics, were collected from the students--one at the beginning of the semester and one at the end of the semester. These pre- and post-tests are explained in detail later in this chapter because they served as instruments for this study.

After the composition sections for the study were selected, the decision concerning which section of the course would become the experimental group and which would become the control group was made. The students who had enrolled in

the two sections had self-selected, so the researcher had no control over that process; however, the section that received the experimental treatment could be controlled. A coin toss determined that the class held at 1:40 p.m. on Tuesdays and Thursdays would become the experimental group, which left the class held at 8:40 a.m. on Mondays, Wednesdays, and Fridays to serve as the control group. This method ensured that the experimental treatment was assigned randomly and that the subjects within the groups were as similar as possible to control extraneous variables .

Some experimental problems were avoided because the students taking part in the study did not meet for class in close proximity according to either time or location. The classes were held in different wings of the same building on different days--a situation making comparisons between classes more difficult for students. Often, when classes are scheduled back-to-back on the same days and held in the same classroom, it has been more difficult to overcome the phenomenon of students' comparing the activities of their respective classes and asking why they were not doing the same things. This situation might have resulted in the experimental class or the control class feeling special in some way, and thus bringing about the Hawthorne Effect (J. D. Brown, 1988). The logistics of these two classes helped in the avoidance of that variable. In addition, a special effort was made to monitor conversations among students to pick up any evidence of their being cognizant of differences and feeling that their class was receiving more or less attention or worse or better assignments. No evidence to that effect was found. The students from both classes knew that their work was being used in a study, so if a feeling of being

chosen resulted during the study, it would occur in both the experimental and control groups equally.

To ensure that the subjects realized that their work was to be used in this study, the students in both groups were informed that their work would be collected in portfolios and kept for one year, a procedure also required by the English Department, and that their work would be used in a study that was being conducted by the instructor. They were asked to inform the instructor about any problems associated with their work being included in the study and told that refusal to participate in the study would not be penalized (i.e., affect their grades for the course). In addition, the students were informed that they could withdraw from participation in the study at any time without penalty. None of the students reported problems or ever asked to withdraw from the study. They seemed to accept the fact that professors do research and that this was a normal part of the college experience.

An examination of the 50 students (25 in each section) in these sections to be included in the study verified that they were similarly distributed in terms of their first language, sex, nationality, academic classification, and major field of study. In this discussion, demographic information about the subjects will be compared and noted in order to highlight differences and similarities between the population of the two groups used for this study.

The students enrolled in these two courses represented the type of students who choose to attend UCO and the type of students who enroll in the English composition courses each semester. The students who served as subjects for this

study have similar characteristics. The majority of the students in both groups listed Chinese as their first language. Both groups consisted of 14 males and 11 females, and both groups had 13 Malaysian students, 8 Taiwanese students, and 4 students from other countries, paralleling the UCO international population in hierarchical ranking of numbers of students from each country represented at the institution. Malaysia and Taiwan are still the top two countries in terms of number of students enrolled at UCO.

In the tables provided to display the demographic data that was collected from the subjects, each subject is assigned a case number. Throughout the remainder of the study, these case numbers remain consistent. With this practice, any data gathered about an individual subject can be cross-referenced with the data in other tables. Please refer to Table I for complete information about the subjects in the experimental group and Table II for information about the subjects in the control group. The information listed in these two tables is included in the discussion following the tables.

Table I
The Experimental Group

| Case | Sex | Nationality | Native Language | Class | Major |
|---|---|---|---|---|---|
| 1 | M | Pakistan | Urdu | Senior | Accounting |
| 2 | F | Taiwan | Chinese | Junior | Business |
| 3 | M | Taiwan | Chinese | Junior | Gen. Study |
| 4 | F | Taiwan | Chinese | Junior | Business |
| 5 | M | Taiwan | Chinese | Senior | Gen. Study |
| 6 | M | Taiwan | Chinese | Senior | Gen. Study |
| 7 | F | Taiwan | Chinese | Senior | Business |
| 8 | M | Taiwan | Chinese | Senior | Business |
| 9 | F | Taiwan | Chinese | Senior | Business |
| 10 | F | Malaysia | Chinese | Senior | Finance |
| 11 | M | Malaysia | Chinese | Soph. | Finance |
| 12 | M | Malaysia | Chinese | Junior | Ind. Tech. |
| 13 | M | Malaysia | Chinese | Senior | Marketing |
| 14 | M | Malaysia | Chinese | Senior | Finance |
| 15 | M | Malaysia | Chinese | Junior | Finance |
| 16 | F | Malaysia | Chinese | Senior | Finance |
| 17 | F | Malaysia | Chinese | Junior | Finance |
| 18 | M | Malaysia | Chinese | Senior | Advertising |
| 19 | F | Malaysia | Chinese | Senior | Gen. Study |
| 20 | F | Malaysia | Chinese | Senior | Finance |
| 21 | M | Malaysia | Chinese | Senior | MIS |
| 22 | F | Malaysia | Chinese | Junior | Finance |
| 23 | F | Japan | Japanese | Senior | Graph. Des. |
| 24 | M | Thailand | Thai | Junior | Graph. Des. |
| 25 | M | Korea | Korean | Senior | Marketing |

Table II
The Control Group

| Case | Sex | Nationality | Native Language | Class | Major |
|---|---|---|---|---|---|
| 26 | M | Taiwan | Chinese | Junior | MIS |
| 27 | F | Taiwan | Chinese | Senior | Business |
| 28 | F | Taiwan | Chinese | Soph. | Gen. Study |
| 29 | F | Taiwan | Chinese | Senior | Gen. Study |
| 30 | F | Taiwan | Chinese | Senior | Gen. Study |
| 31 | M | Taiwan | Chinese | Senior | Biology |
| 32 | M | Taiwan | Chinese | Junior | Gen. Study |
| 33 | M | Taiwan | Chinese | Junior | Business |
| 34 | F | Malaysia | Chinese | Senior | Marketing |
| 35 | M | Malaysia | Chinese | Senior | Marketing |
| 36 | F | Malaysia | Chinese | Junior | Business |
| 37 | M | Malaysia | Chinese | Senior | Finance |
| 38 | M | Malaysia | Chinese | Senior | Music |
| 39 | F | Malaysia | Chinese | Senior | Business |
| 40 | M | Malaysia | Chinese | Senior | Finance |
| 41 | F | Malaysia | Chinese | Senior | Finance |
| 42 | F | Malaysia | Chinese | Senior | Marketing |
| 43 | M | Malaysia | Chinese | Senior | MIS |
| 44 | F | Malaysia | Chinese | Senior | Business |
| 45 | F | Malaysia | Chinese | Senior | Gen. Study |
| 46 | M | Malaysia | Chinese | Senior | Marketing |
| 47 | M | Hong Kong | Chinese | Senior | Graph. Des. |
| 48 | M | Hong Kong | Chinese | Senior | Chemistry |
| 49 | M | Indonesia | Indonesian | Senior | Finance |
| 50 | M | Indonesia | Indonesian | Senior | Finance |

The similarity between the two groups persists when examining the subjects' academic classification. Many international students at UCO transfer with credits from institutions in their home countries; therefore, they often begin their study here as juniors or seniors even though they may have to complete two years of course work to graduate. The majority of the courses that they need for completion of their degrees are general education requirements, one of which is the English composition course. This situation causes the strange phenomenon of the enrollment of students classified as juniors and seniors in these traditionally freshman courses. These students are usually beginning university students only in the sense that they are new to this institution and the United States. The phenomenon appears in both groups; the experimental group had 16 seniors, 8 juniors, and 1 sophomore, and the control group had 20 seniors, 4 juniors, and 1 sophomore. Their differing academic status, therefore, is an artifact of the number of hours that they transferred, not the time that they have until completion of their academic programs.

The major fields of study listed by the students in the two groups, displayed in Tables I and II, also appeared similar. Twenty percent of the students in each group reported that their major field of study was business; another twenty percent of the control group reported majors in finance, whereas thirty-two percent of the students in the experimental group were finance majors. Those students listing general study for a major, twenty percent in the control group and sixteen percent in the experimental group, reported that they intended to use their degrees to obtain or continue positions in businesses in their own countries. This practice is common for students who want

to finish their degrees quickly because they can use more of their transferred courses in completing a degree in general study. Marketing and management information systems (MIS), business-related fields, claim three students in the experimental group, two in marketing and one in MIS; and six students in the control group, four in marketing and two in MIS. The other majors include advertising, industrial technology, accounting and graphic design for the experimental group--all majors that offer employment in the business world--and biology, chemistry, music, and graphic design in the control group.

As shown in Tables I and II, listing all 50 cases, one can see that these two groups are not only similar to one another, but that they also mirror the international population at UCO, which was described in the previous section of this chapter. The composition of the classes is representative of the population, and they are also representative of the student enrollment for past sections of this course and for the sections that have been taught since the study was conducted. Therefore the students who participated in this study are representative of the population of international students at UCO.

## Research Design

As stated previously, this study was designed to compare the differences between the learning outcomes of ESL composition students who had experienced two different approaches to the teaching of composition for non-native speakers of English, one of which followed the traditional method of lecture-based classroom

presentations and the other the method of simulation gaming. In order to clearly distinguish the two approaches and establish exactly what procedures were followed in each class, an extensive syllabus was designed for each class. Copies of the instructional sequences are included in Appendix B. The syllabus for the control group has been described in the previous chapters; it is the one that evolved through years of experience, each semester resulting in a few small adjustments. The syllabus for the experimental group was created for this study.

*The Syllabus for the Control Group*

In summary, the control group followed a syllabus that was organized around essay assignments, peer evaluation, and revision, with reading assignments that supported the writing assignments and specific work on grammatical structures that had proven to be problematic for ESL students. The presentation of information followed the traditional lecture and discussion method. The teacher presented the grammatical or rhetorical concept in a lecture, and students were asked to complete grammar or writing practice exercises, for which the answers were later discussed in class. The students in the control group also spent some class time reading the drafts of their peers to provide ideas for revision. Activities for the control group included completing forms for peer evaluation, completing writing exercises and grammar exercises, reading the work of other students, reading from the text books *Simon and Schuster's Handbook for Writers* (Troyka, 1993) and *Outsiders* (Mullen, 1984), conducting library research, watching a movie (*Gung Ho*), and taking notes from lectures. These activities are fairly common in both native speaking and ESL

composition courses. However, the syllabus for the experimental group was created especially for this study; therefore, some explanation concerning the design process that was followed in the creation of the syllabus will be helpful at this point.

*The Syllabus for the Experimental Group*

First, the advice of those who had created simulations was sought. Duke (1974) provided a guide to the game design process that included four phases: initiation, design, construction, and use; however, he argued that the process was not linear, but had to be understood as occurring simultaneously--as an art. Duke's advice, as well as the information from other game designers, such as Greenblat (1975), J. S. Coleman (1975), Gamson (1975), Feldt and Goodman (1975), Jones (1985), and Thiagarajan (1994), was considered in the process of creating the simulation for my experimental class. All of these designers emphasized the non-linear nature of the process; however, to expedite the description of my design process, the steps will be presented as though they had been linear, with the understanding that creative processes are rarely linear.

Needs assessment analyses conducted over the four semesters preceding the study had shown that the majority of students enrolling in the course were pursuing degrees in business. Even students registered with a major in general studies revealed plans to pursue careers in business. Most students indicated a desire to improve their communication with native speakers, especially those with whom they came in contact during typical day-to-day interactions. This desire on the students' part to increase their ability to understand native speakers coincided with one of the goals of the

sheltered ESL composition courses--to help these students adjust to campus life, both academic and social, with the emphasis on improving their ability to cope with university-level writing assignments. This information about the students entering the courses served to inform the simulation creation process for the experimental group, just as it had informed the adaptations made in the control group's syllabus each semester.

Information about the students who enrolled in the ESL composition course helped in the decision to base the simulation on international business, and several experienced simulation designers provided advice in the creation of the simulation. Greenblat and Duke's (1975) "Gaming-Simulation Record Sheet" and Jones' (1982) elements of a simulation provided the details necessary for considering all components of the simulation that was to be created for my students. Greenblat and Duke's instructional grid included a section on "Design and Operating Characteristics," which instructed simulation designers to present the steps of play in chronological order. (Please refer to the instructional sequences in Appendix B for a listing of the steps.) Jones reminded simulation designers not to be disappointed if the participants in the simulation did not follow those steps exactly because the goal of simulation is to allow the interaction of the participants to drive the events.

Crookall and Arai's (1995) collection of articles on gaming and simulation, specifically focusing on the proceedings of the 25th anniversary conference of the International Simulation and Gaming Association provided support for the view of simulation as a methodology that transcends disciplines. Whereas Crookall (1984)

had used simulations that were not specifically designed for English instruction, Cumming (1984) and Troyka and Nudelman (1975) provided models of simulations specifically created for composition courses, as the extended simulation had been. Horner and McGinley's (1990) step-by-step guide for running simulations informed the group assignment process and the development of role descriptions, which in the simulation for this study were only suggested to allow students to join in the creation of their own role descriptions. Students needed to have as much input as possible into their own roles and the gradual development of those roles during the semester; therefore, only enough information to initiate play was built into the roles for the simulation.

According to Horner and McGinley (1990), the basic parts of a simulation are the warm-up, the simulated event itself, and the debriefing. As discussed in the previous chapter, some researchers, including Lederman (1994), believe that debriefing is the most crucial element required for learning to occur. The warm-up phase of the simulation provides background information or an activity to produce background information or activate schema that would be useful for the performance of the simulation. Warm-up activities can include material for reading, prepared exercises, such as cloze, and brainstorming for lists of vocabulary or items expected to appear during the performance of the simulation. After completion of the simulation, debriefing is conducted. Debriefing activities can include open or guided discussions about what occurred during the simulated event and how the participants felt about what happened and questionnaires that may lead the participants to think

about or notice some specific points that were the focus of the simulation.

After consulting these sources on simulation and game design, creating some simulations, and facilitating a few simulations, I created GLOBECORP, a simulated multinational corporation, during a course in materials design and decided to expand it for use with the experimental group in this study. GLOBECORP, designed with roles that parallel the real world, simulates an imaginary company in which various problems arise, sometimes because of multicultural and multinational differences. These problems must be resolved by negotiation, compromise, and consensus. GLOBECORP is diversified with many products and services offered through its subsidiaries so that each situation that arises in stories, newspaper articles, and videos will affect the corporation and can be used in the plot outlines for the simulation as it progresses.

With this open-ended design, GLOBECORP can be modified each semester to reflect current issues. For example, during the fall of 1994, when the simulation was conducted for this experiment, GLOBECORP owned tire plants that were facing a labor strike, a resort chain hoping to expand on the island of Sarawak, and fast food establishments that had errors in their advertising. Information from local, state, national, or world news media can provide material for the simulation plot. With this organization, the simulation can be updated to reflect current events and used in consecutive semesters without the complication of creating a totally new simulation every semester. This flexibility allows the simulation to be varied as often as necessary to take advantage of breaking news and to deter students from attempting to

copy work done by students who have already completed the course.

When the experiment was conducted, the workers at Bridgestone, formerly Firestone, had begun a strike against the new Japanese owners. This event produced extensive media coverage that could be used as background information for the simulation. Also, during the summer of 1994, the Disney company had planned to construct a theme park near Washington, D. C., a proposal which was later withdrawn, but which provided information for the students who were participating in the simulation. The students used the points made by those opposing the Disney park in Washington, D. C., as a model for the kinds of objections that they would receive from their opponents when they presented their plans to develop a resort in Sarawak. By keeping the events that cause problems for GLOBECORP current, the students participating in the simulation can find background information more easily. In addition, current events are more interesting.

The roles that I suggested to the students for GLOBECORP included the chief executive officer, executive managers, workers' representatives, and representatives from the following divisions: Oil and Gas, Environmental Affairs, Management Information Systems, Marketing, Public Relations, Personnel, Acquisitions, and Advertising. The students were asked to select the position that they wanted and to apply for it in a formal letter of application; however, they were not limited to the suggested list, but were allowed to describe and apply for any position that they thought would be relevant.

The specific activities for each day of the semester for both the experimental

and control groups were planned and followed closely in order to avoid problems encountered in some comparative method studies in which the activities in the control and experimental groups converged and came to resemble one another so much that the results were confounded (Smith, 1970; Clark, 1969; Long, 1984). One advantage of teacher-researchers is that they do control and monitor exactly what occurs in the classroom. Activities for the experimental group included completing activities designed to prepare the students for some of the vocabulary and grammatical constructions that they may encounter during the simulated event. These preparatory activities are called warm-up exercises, and an example of an activity that could be used for this pupose is a cloze exercise. Other activites for the experimental group included consulting on collaborative writing assignments; completing individual writing assignments in the form of letters, memos, reports, and summaries; reading from the text books *Simon and Schuster's Handbook for Writers* (Troyka, 1993) and *Outsiders* (Mullen, 1984); conducting library research; presenting oral reports; watching a movie (*Gung Ho*); practicing persuasion strategies, with emphasis on appeals to reason, emotion, and ethics; and debriefing activities. For a complete listing of the class procedure, refer to the instructional sequence for the experimental group in Appendix B.

The evaluation of each student in the experimental and control groups was accomplished through portfolio assessment of specified assignments (30%), the evaluation of correctness and achievement of purpose for two representative writing assignments selected by the students from their portfolios (30%), participation

assessed through attendance (5%), the post-test (5%), and the evaluation of oral presentations and accompanying reports (30%). As part of the portfolio requirement, the students in the experimental group kept a planner in which they recorded their progress; this planner was intended to keep the students focused on the tasks and to illustrate their progress throughout the semester. The real-world counterpart is often referred to as a file-o-fax or Franklin planner, used by corporate management to plan and keep records for later referral. These planners were collected periodically, and their contents served to verify what the students were accomplishing and often how they felt about what was happening in the class. The control group was asked to keep a journal in place of the planner kept by the experimental group. In the journal, they were asked to keep a record of their observations of native speakers. For the specific assignments, please refer to the instructional sequence in Appendix B.

Every attempt was made to ensure that only the method of delivering instruction was varied. The students in both groups were assigned similar writing topics. For example, when the experimental group was assigned to write a report with detailed plans for the resort in Sarawak, the control group read the same articles about Sarawak and were asked to write about the advantages and disadvantages of developing the land in that part of Malaysia. When subjects in the experimental group were assigned internet projects for simulation projects, subjects in the control group also received internet assignments. Both groups were asked to write summaries of articles, but the group using simulation were told that the article was to be summarized for a superior in GLOBECORP, while the group using the traditional

method was assigned to summarize the article as part of the work required for the class. A list of the writing assignments for both groups is provided in Table III.

Table III
Writing Assignments

| Experimental Group | Control Group |
|---|---|
| 1. Pre-treatment essay | 1. Pre-treatment essay |
| 2. Letter of application | 2. Letter of application |
| 3. Paragraph on stationery selection | 3. Paragraph reaction to reading |
| 4. Memo with role introduction | 4. Essay 1: Paragraph expansion |
| 5. Collaborative summary of an article | 5. Essay 2: Revision of Essay 1 |
| 6. Collaborative memo on Grammar in Advertising | 6. Topic for Essay 3: Grammar in Advertising |
| 7. Letter with plan of action for Grammar in Advertising | 7. Essay 4: Revision of Essay 3 with additional examples |
| 8. Memo on "Señor Payroll" | 8. Summary of "Señor Payroll" |
| 9. Letter on cross-cultural communication | 9. Essay 5: Reaction to "Señor Payroll" |
| 10. Letter on "Señor Payroll" | 10. Essay 6: Revision of Essay 5 |
| 11. Collaborative memo on strikes | 11. Summary of article on strike |
| 12. Memo on movie/strike parallels | 12. Summary of movie |
| 13. Response to memo on movie | 13. Essay 7: Compare movie/strike |
| 14. Letter to Assan Motors | 14. Essay 8: Revision of Essay 7 |
| 15. Memo on "Disney in D.C." | 15. Summary of article on Sarawak |
| 16. Response to memo on Disney | 16. Essay 9: Sarawak Development |
| 17. E-mail introduction messages | 17. E-mail introduction messages |
| 18. Collaborative e-mail message on Sarawak development | 18. Essay 10: Revision of Essay 9 adding source citations |
| 19. Collaborative Sarawak proposal by e-mail | 19. Second e-mail message to keypals Topic-Relationships |
| 20. E-mail message to begin hostage negotiations | 20. Essay 11: How Should Hostage Situations be Handled? |
| 21. Collaborative e-mail message to terrorists | 21. Third e-mail message to keypals Topic-Holidays |
| 22. Letter of resignation | 22. Final e-mail message to keypals |
| 23. Planner entries | 23. Journal Entries |
| 24. Post-treatment essay | 24. Post-treatment essay |

The writing assignments, which are listed above in Table III and placed in the instructional sequence in Appendix B, prompted writing products that were based on the same information, but that displayed distinctly different voices and tone. To illustrate the difference between the writing produced by the subjects in the experimental group, whose assignments were made within the framework of simulations, and the subjects in the control group, whose assignments were made in the traditional manner, some examples are provided and discussed in the next chapter.

The design of the syllabuses for these two groups can be more clearly understood after examining the assignments made for each group. Also, the research design depended on the clear distinction between the two methods of instruction; therefore, the instructional sequence for each group was followed precisely. Copies of the instructional sequences for both the experimental and control groups are in Appendix B.

## Research Instruments

Four different research instruments were used during this study in an attempt to investigate the various effects of the two methods compared. Those instruments were the *Simon and Schuster Competency Test for Writers*, writing samples, writing anxiety surveys, and instructional effectiveness surveys. Objective tests such as the one used in this study have been shown to be predictive of students' writing abilities in research conducted by such institutions as Educational Testing Service, using the Test of English as a Foreign Language (TOEFL) and by Simon and Schuster, using

their own test of writing competency. However, to augment the objective test results and verify that they were representative of the students' writing improvement, samples of actual writing from all students in each group were collected and rated holistically. The other instruments used, in addition to the objective tests of writing competency and the writing samples, were writing anxiety surveys and instructor effectiveness surveys to gather information about the subjects' perceptions of their anxiety about writing in English and their opinions on the effectiveness of the course respectively. A description of each instrument follows.

*Objective Tests*

The objective test used for this study was a pre- and post-treatment testing instrument required by departmental policies and administered to all students enrolled in freshman composition courses. These objective tests are provided by the publisher of the text adopted by the English Department, Prentice Hall's *Simon and Schuster Handbook for Writers* (Troyka, 1993), and test items are keyed to specific sections of that text. The results of the tests, provided by scantron correction and analysis, indicate areas of grammatical competence and error patterns across seventeen categories: commas, apostrophes, capital letters, quotation marks, pronoun case, subject-verb agreement, adjectives and adverbs, pronoun reference and shifts, fragments, comma splices and fused sentences, dangling and misplaced modifiers, levels of diction, conciseness, parallelism, transitions, ordering sentences, and narrowing topics. Because the tutors provided by the English Department are familiar with the departmentally adopted text, the pre- and post-treatment assessment

instrument is keyed to the text, the text has special sections for ESL students, and the sheltered courses for international students share equal credit with the regular sections for native speakers, the decision was made to use this text book in the international composition sections instead of a text book written specifically for ESL students.

The pre- and post-treatment testing instrument provided with the adoption of this text had been offered by Prentice Hall as an indicator of writing competence according to a case study conducted by Prentice Hall at a large technical college located in the northeastern United States (Gordon, 1993). In this study, 53 college level freshmen completed the objective competency test and wrote an essay that was holistically scored. The results showed a correlation coefficient of .63 with $p < .05$, which, according to the Prentice Hall researchers, suggested that the objective test might be used to assess writing competency in situations that precluded the administration and scoring of essay tests. Although the relationship between the objective test results and the holistically-scored essays was not strong, the objective test continues to be used for the purpose of assessment because of its convenience and speed in scoring.

These objective tests were constructed in pairs, specifically for the purpose of pre- and post-testing. The students were allowed 45 minutes to answer 60 items with four choices. These items were divided into three sections. The first section contained 22 items covering the areas of verbs, adjectives and adverbs, pronouns, capital letters, and punctuation. In this section the students had to identify which one of the four underlined sections contained the error and mark their choice on a

scantron. It is similar to the first part of the TOEFL grammar section. Here is an example from Section I of the *Simon and Schuster Competency Test for Writers*:

*In early spring, the flowers and trees throughout Highland park bloomed into a beautiful display of color.*
*A B C D*

The second section, containing 32 items covering word choice, sentence structure and punctuation, and sentence clarity and style, required the students to select the best of three ways to revise sentences or parts of sentences if revision would improve the sentence. If none of the three revised sentences or parts of sentences improved the original rendering, then the students were instructed to select choice A, in which no changes had been made in the original item. This section is similar to the second part of the TOEFL grammar section. An example from Section II of the *Simon and Schuster Competency Test for Writers* follows:

*Sometimes very simple inventions solve complicated problems, for example, the paper clip and the rubber band are indispensable in most offices today.*

*A. problems, for example, the paper clip and the rubber band are indispensable*

*B. problems for example. The paper clip and the rubber band are indispensable*

*C. problems. For example, the paper clip and the rubber band are indispensable*

*D. problems for example the paper clip and the rubber band are indispensable*

The third section of the *Simon and Schuster Competency Test for Writers* consisted of six items concerning the ordering of sentences in paragraphs and narrowing topics for essays. This section specifically focused on the rhetorical aspects of writing. An example of an item from Section III follows:

> *For an essay of about 500 to 700 words on politics, which of these topics is most appropriate?*
> *A. Politics*
> *B. The History of Political Parties in America*
> *C. The Effect of Television on Today's Political Campaigns*
> *D. Politics in our World*

Different forms of this assessment instrument had been used for assessment purposes at the University of Central Oklahoma for four semesters prior to the semester of the present study. The results of those assessments for the international composition sections taught by this researcher during two of those four semesters are provided in Appendix A for the purpose of comparison with the results of this study.

*Writing Anxiety Surveys*

Most of the studies conducted on writing anxiety in first and second language have relied on the Daley-Miller Writing Apprehension Test (DM-WAT) and the DM-WAT adapted for ESL students (ESL-WAT) respectively (Gungle & Taylor, 1989); therefore, the ESL-WAT was a prime candidate for measuring the writing anxiety differences between the control and experimental groups in this present study. The DM-WAT, a twenty-six item self-report instrument using a five-point Likert-type scale, was compiled in 1975 by Daly and Miller, who took the items from already established instruments of communication-related apprehension, revised them, and tested them for their reliability (Daly & Miller, 1975a). In 1986, Gungle and Taylor

formulated an ESL version by adding a reference to writing in English to each statement and by providing a six point labelled scale rather than the original five point scale in order to keep the subjects from giving noncommittal responses.

Busch's (1993) warnings about using Likert-scale questionnaires included the importance of validation through systematic testing of the instrument; therefore, the validity of this instrument was carefully investigated, and its dominance in research on writing apprehension as well as its history of validation made it a logical choice for this present study. Due to Busch's (1993) warning concerning the problem of performing statistical analyses designed for interval data on data that is truly ordinal, the ESL-WAT was modified. In the Gungle and Taylor study, the ESL-WAT response choices (1-6) were each labelled, resulting in ordinal data that was used as though it were interval data. For this study, only the ends of the six numerical choice levels on the instrument were labelled, with 1 indicating strong agreement and 6 indicating strong disagreement. With this method of labelling, students could equally rate their level of agreement or disagreement on the scale, thereby providing interval data so that more powerful statistical procedures could legitimately be performed.

Several items on the instrument contained repeated topics in different sentence structures to verify students' responses; these items were recoded. An example of a statement from the instrument used to measure writing anxiety follows:

*Taking an English composition class is a frightening experience.*

In addition to responding to the statements of the ESL-WAT, the subjects were asked to provide the following information on the instrument: country of origin,

gender, language of most fluency, primary language of instruction, educational level, and length of time in the United States. The completed survey instrument was piloted on small groups that were similar to the target population for the study to assess clarity of items and administration procedures.

Then, for a pilot study conducted by this researcher, a total of eighty-two students enrolled in four composition classes for international students at the University of Central Oklahoma in the spring 1994 semester completed the survey instrument. From those surveys, the reactions of the students from two countries, Malaysia and Taiwan, were selected and analyzed because the students from those countries were closely related in all areas except for the construct being tested: the language situation in their countries. In Taiwan, English is not commonly used, but in Malaysia, English is commonly used as a *lingua franca*. Therefore, students from Malaysia are exposed to English more, and, as a result of that exposure, they possibly have a lower apprehension level when using it as a form of communication.

The findings of that preliminary study, which suggested that students from Malaysia had lower writing anxiety levels than those from Taiwan, indicated that research conducted in the area of ESL writing anxiety should include gathering complete and accurate information about the background of the subjects, information that includes not only the language background but also the country of origin. Although all of the students in this study reported Chinese as the language in which they were most fluent, it was their differences in nationality that significantly affected their writing apprehension scores. Had the subjects been grouped by the first

language variable alone, the differences would have been missed. Therefore, when conducting analyses on variables that affected the ESL writing anxiety of the subjects in this present study, their countries of origin as well as language background and gender were examined, and it was discovered that the two groups of students had similar compositions according to these variables; therefore, any differences in effect for one group due to these variables would also be found in the other group.

*Writing Samples*

All student writing produced during the semester in both the experimental and control groups was collected and organized in portfolios. This collection of student writing included writing generated via computers, using a word processor or e-mail, as well as traditional paper compositions. All of the subjects' pre- and post-treatment writing samples were evaluated holistically with criteria from the six-point scale provided with the second edition of the *Simon and Schuster Diagnostic and Competency Test Packet* (1990), which is similar to the scale used by the Test of Written English, a sub-test of the TOEFL. Three experienced English composition instructors evaluated the writing samples. All of these evaluators had taught or were teaching composition courses, both the international sections of composition and the sections of composition for native speakers of English.

*Instructional Effectiveness Surveys*

As a regular practice, the instructors of each course at UCO are evaluated by the students with the "University of Central Oklahoma Student Feedback on Instructional Effectiveness," a survey instrument with a multiple-choice format, which

has been used since the fall of 1985. The students of full-time faculty members complete the survey once a year, and the students of part-time faculty members complete the survey every semester. The students score the instructors with a 4-point scale similar to the Likert on 12 statements about the instructor's performance, attitude toward the students, preparation, clarity of presentation, manner of delivery, explanation of course requirements, pace, assigned work load, examinations, grading, and availability, ending with a query as to whether the student would recommend the instructor to others. On the reverse side of the instrument, the students can make written comments as to the outstanding aspects of the course, suggest recommendations for changes to improve the course, and add any additional comments or questions.

The students in both the experimental and control groups used this instrument to evaluate the instructor's effectiveness in teaching their sections of the course. Data collected from this instrument would be used to discover any differences between the responses from the students in the control and experimental groups concerning their impressions that they had about the course and their opinions on the effectiveness of the instruction provided for each group.

## Procedures

Both groups were taught by the researcher, and the course procedures for both the experimental and control groups, which have been described above and included in Appendix B, were meticulously followed in order to prevent any confusing overlap

between the two distinct groups, a confounding effect discussed in the literature review of comparative method studies. In addition to the use of computers for communication within the classes, both groups of students were assigned accounts on the University of Central Oklahoma's AIX System during the tenth week of the semester, a request that the researcher-teacher had made a year earlier.

To take advantage of this opportunity to use the internet, both the experimental and control groups were assigned keypals with whom to communicate electronically. However, the experimental group participated in a simulated exchange with their keypals on assigned topics, while the control group exchanged messages without the element of simulation. This difference in e-mail use paralleled the methodological differences so that the day-to-day procedures for each group adhered to the syllabus that was especially designed for it.

Included in the syllabus and instructional sequences for the two groups, are the dates for the administration of the research instruments used in this study. The specific procedures for the administration of each of those research instruments are discussed below.

*Objective Test Administration*

During the second class meeting, both the control and experimental groups were given Form AA of the *Simon and Schuster Competency Test for Writers* as the pre-treatment test. During the last class meeting, parallel Form BB of the same test was administered as the post-treatment test. Almost four months had elapsed between administrations of the tests, and counterbalancing was used with two forms of the test

to combat the practice effect. The instructions for administering and proctoring the tests included in the supplementary material prepared by Gordon (1990) for the publisher of the *Simon and Schuster Handbook for Writers* (1993) were followed for both the pre- and post-test administrations.

After ensuring that the students all had #2 pencils, scantrons, and scratch paper, the time limits were written on the board as follows:

| Section | Number of Items | Time |
|---|---|---|
| I | 22 | 10 min. |
| II | 32 | 25 min. |
| III | 6 | 25 min. |

The students were given detailed instructions regarding the completion of the test and notified when the time for the completion of each section had elapsed. The completed scantrons were then sent to the University Computer Center for scoring and the preparation of the results, which were given to the students so that they could check their standing for each of the seventeen areas tested.

*Writing Anxiety Survey Administration*

The writing anxiety surveys were distributed at the beginning of class during the third day of class to all of the students in both groups to measure pre-treatment anxiety levels and during the last week of classes to measure post-treatment anxiety levels. During both administrations of the survey, the directions printed at the top of the instrument were read aloud to the students.

The students completed their forms without any time limit. After selecting the

subjects as described above and adjusting for negative and positive responses by reverse-coding the values, the responses to each item were totalled for each of the subjects. The scores were set so that the writing anxiety score increased as writing anxiety increased. The highest score possible was 156 (the highest writing anxiety level), and the lowest score possible was 26 (the lowest writing anxiety level). The students were not provided with the results of their writing anxiety levels for the pre- or post-treatment measure. No student even asked about the results although several had expressed concern about the results of the objective tests.

If the students had been told their anxiety scores, they may have been overly aware of the experiment, and that piqued awareness might have resulted in a Hawthorne effect. In order to avoid that possibility, after the administration of the pre-treatment writing anxiety survey, no mention was made of the survey until the post-treatment survey was administered. At that time, the students accepted without question that the survey was being repeated to see if their reaction to writing in English had changed. If they had any concern, it was never expressed; therefore, the administrations seemed to be free of interference, leading me to conclude that the opinions were the honest feelings that the students had about those statements concerning writing in English on that day at that point in the course.

*Writing Sample Administration*

All of the writing assignments were gathered in portfolios created and compiled by the students in both the experimental and control groups. The students were informed as to the English Department guidelines for the procedures to be

followed for written work produced during the composition courses. They were informed that their work would be kept by the instructor for one year and that upon their approval, their work would be used for research (with their names removed). It was also made clear that they would not be penalized for denying permission to use their work in research. This statement ensured that students had the freedom not to participate in the study; however, not one student in either group declined to participate.

The pre- and post-treatment writing samples were administered to all students in both sections during the first and final weeks of the semester. The students were given 50 minutes to write an essay on topics provided by the English Department. The topic for the pre-treatment sample was written on the board as follows:

> *Do you think that entrance requirements and tests, such as the TOEFL or ACT, are fair? Why or Why not?*

The topic for the post-treatment sample was written on the board as follows:

> *Describe your writing process or what you have learned about the writing process from any college assignment that you have completed.*

These were topics that had been used by the English Department for assessment purposes, so they had been deemed appropriate in that they gave the students topics for which they would have prior knowledge. Although the topics for the writing tasks required different rhetorical structures and might have been of unequal difficulty, both groups confronted this difference. All identification was removed from the 100 writing samples, which were then ranked by three evaluators, using a six-point scale

provided in the Simon and Schuster Test Packet (Gordon, 1993).

*Instructional Effectiveness Survey Administration*

The "University of Central Oklahoma Student Feedback on Instructional Effectiveness" forms were to be administered by students so that the teacher would not be in the room to see the responses or intimidate the students during their evaluation of the course. In addition, the instructions made it clear that the forms would not be seen by the teachers until the semester was over, and the grades had been submitted. The directions were written out on the packet for the student administering the instrument, and the student-administrators were directed to read information aloud to the other students. That information explained that the questionnaire was part of a program developed by the University to provide profiles of instruction and that information gained from the survey would be useful to the instructor, the department, the students and administrators. The students were also told that the form provided an opportunity for them to evaluate their experience in the course. Then they were told to respond to each of the items by marking scantrons. Many of the students were used to this procedure as this assessment is a university-wide practice. The data collected from the results of this instrument would help to establish whether the instructional practices for each group were well-received.

## Treatment of the Data

In this study, different instruments were used to collect data for specific purposes, all of which served to produce empirical evidence for the particular effects

of the two methods under investigation. The major variables in this study were as follows: group (control and experimental), objective tests of writing competency scores (pre- and post-treatment), writing anxiety (pre- and post-treatment), and instructional effectiveness survey ratings. Each of these variables, except for the variable "group," also had the variable of control or experimental group embedded in it.

When different configurations of grouping were used for the data, it was clearly indicated and ordered according to the organizational pattern previously established--by research instrument. Because of the multiple instrument approach in the research design, each research instrument is discussed below with regard to the particular statistical tests selected for the data gathered from its administration. All statistical analyses were conducted on Systat with the alpha level set at $p < .05$.

*Objective Test Analyses*

Statistical analyses were conducted on the interval data collected from the *Simon and Schuster Competency Test for Writers*. Due to optimism on the part of the teacher, the post-treatment scores were expected to be higher than the pre-treatment scores for both groups. It might be expected that students in the control group, taught with the focus on form in a traditional methodology, would demonstrate more improvement on a test of discrete item grammatical competence than the experimental group, which did not focus on form. However, as discussed in the previous chapter in the section on "Comparative Method Studies," most research conducted to compare the effects of different methods had not shown significant differences when the data

collected from discrete item tests were analyzed.

Of course, before any claims could be made about the effects of the treatment on either group, the similarities or differences between the mean scores of the control and experimental groups on the objective tests administered before the treatment had to be investigated. In light of previous results from past administrations of these pre-tests, no significant differences were expected between the mean scores for these two groups on the objective tests administered before the treatment. An independent *t*-test was used to conduct a comparison of the means between the two groups. The hypothesis was set as follows:

> Hypothesis 1: There is no significant difference between the means for the experimental and control groups on pre-treatment scores of the "Simon and Schuster Competency Test for Writers."

Then, paired-sample *t*-tests were run to detect any differences in mean scores between the pre-treatment and post-treatment scores within each group. It was expected that both groups would improve over the term of study because that had occurred in previous semesters; therefore, statistical analyses were conducted on both groups with the following hypothesis:

> Hypothesis 2: The means for the post-treatment scores of the "Simon and Schuster Competency Test for Writers" are significantly higher than the means for the pre-treatment scores in both groups.

After those tests were completed, another statistical analysis was conducted to examine any significant differences between the means for the experimental and

control groups on the post-test. Because researchers had found no significant differences between groups in most comparative method studies, and Troyka (1973) had found no significant difference between the groups in her study for the objective test results, the hypothesis for an independent *t*-test was set as follows:

> Hypothesis 3: There is no significant difference between the means for the experimental and control groups on post-treatment scores of the *Simon and Schuster Competency Test for Writers*.

The testing of these hypotheses would determine if the groups began the experiment at approximately the same level of competence, if the groups made progress in terms of their writing competency as measured by this instrument, and if the groups made comparable progress as indicated by their scores at the end of the experiment.

*Writing Anxiety Analyses*

The ESL Writing Anxiety Test (ESL-WAT) scores calculated from the pre-treatment writing anxiety instrument were entered as the data for a statistical analysis using an independent *t*-test to discover the differences in the mean scores of writing anxiety between the control group and the experimental group in order to establish a base-line for the experiment. For this instrument, the higher scores represent higher anxiety levels as indicated by the students' responses to the survey items. The research hypothesis was set as follows:

> Hypothesis 4: There is no significant difference between the means for the experimental and control groups on ESL-WAT pre-treatment scores.

After a base-line was established, the ESL-WAT scores calculated from the

pre- and post-treatment writing anxiety surveys were entered as the data for statistical analyses using the paired samples *t*-test to discover any differences between the pre-treatment mean scores and the post-treatment mean scores on the writing anxiety survey as a result of the treatment in both groups. The students in both of the groups might be expected to report lowered anxiety at the end of treatment due to the writing practice and instruction provided during the semester; therefore, the hypothesis was set as follows:

> Hypothesis 5: The means for the post-treatment scores on the ESL-WAT are significantly lower than the means for the pre-treatment scores in both the control and experimental groups.

After determining whether the writing anxiety levels as indicated by the surveys were lowered by the treatment for both groups during the semester, an independent *t*-test was run to compare the post-treatment means of the two groups. The expectations from research reviewed in the previous chapter under the sub-heading "The Advantages of Simulation Gaming" had led to the suspicion that the experimental group would report decreased anxiety due to the effect of simulation as an anxiety-reducing method of instruction; therefore, a research hypothesis was set as follows:

> Hypothesis 6: The mean for the experimental group on the ESL-WAT post-treatment scores is significantly lower than that for the control group.

These hypotheses were set to test the effects of differing methods on the writing anxiety levels of students as measured by this instrument. If both groups

started out with similar levels of anxiety, and one group ended the term with significantly lower levels of anxiety, then one might expect to find some basis for the support of the use of simulations to lower the anxiety associated with writing tasks.

*Writing Sample Analyses*

The rating procedure took into account the need for objective evaluation of the students' writing, the importance of holistic impressions of writing, and the benefit of collecting writing samples to accompany the results from objective tests of writing competency. First, the three experienced evaluators rated the 100 pre- and post-treatment writing samples according to the six-point scale described previously, and these ratings were recorded individually by evaluator and by each subject's case number to be used as the data for statistical analyses. Then, the interrater reliability coefficient was calculated with a Spearman test for ordinal data.

After that, the ratings of each evaluator for the pre-treatment writing samples from each group were compared in order to establish the base-line before treatment began. The Mann-Whitney *U* was used with the ordinal data, and the hypothesis was set as follows:

Hypothesis 7: There is no significant difference between the experimental and control groups on the ratings of the pre-treatment writing samples.

Then, to test for significant differences within each group that might have occurred as a result of the treatment administered during the semester, a Wilcoxon test was used, due to the repeated samples and the ordinal data. It was expected that the completion of courses on writing instruction would result in increased

performance on writing tasks; therefore, the hypothesis was set as follows:

Hypothesis 8: The post-treatment writing sample ratings are significantly higher than the pre-treatment writing sample ratings in both the experimental and control groups.

To discover any significant differences between the groups on the post-treatment ratings, the Mann-Whitney *U* test was used again. Because the traditional method of instruction used with the control group might have served to pique interest in form, it might be expected that the control group would excel in the eradication of form-based errors. However, studies of explicit grammar instruction have not been successful in proving that grammar instruction affects grammatical correctness in student writing (Hillocks, 1986; McKay, 1987; Lalande, 1982; Rutherford, 1987). On the other hand, Troyka's (1973) study found that the students who used simulations showed more improvement in their writing than the control group of students who did not participate in simulations. Although her experimental group received the same instruction on form as the control group, with the simulations an added experience, it appeared that the simulation participation predicted which group would receive higher ratings on the post-treatment writing samples. As a result of the findings from these studies, the hypothesis was set as follows:

Hypothesis 9: The post-treatment writing sample ratings are significantly higher for the experimental group than for the control group.

*Instructional Effectiveness Survey Analyses*

The score for the "University of Central Oklahoma Student Feedback on

Instructional Effectiveness" was calculated by the administration and returned to me at the beginning of the spring semester of 1995, following the semester in which the study was performed. The data compiled from these instructional effectiveness surveys were compared in order to determine any significant differences in the students' opinions about the instructors' treatment of the students, the material, the assignments, and other elements of the course. As discussed in the previous chapter, researchers in the field of simulation found that students had stated a preference for courses that used the method of simulation and the students had described the element of enjoyment inherent in learning through simulations, so it was expected that the experimental group would rate their instruction higher than the control group would rate their instruction. The data gathered from the instrument were analyzed statistically with a *t*-test in order to discover any significant differences between the scores for instructional effectiveness for the control and experimental groups. The hypothesis was set as follows:

> Hypothesis 10: The means of the instructor effectiveness scores for the experimental group are significantly higher than those for the control group.

All of the data described above were organized, the procedures followed, and the statistical analyses conducted in order to test the 10 hypotheses. The results were then recorded and are presented in the next chapter, following the same organizational strategy that was used in this chapter.

# CHAPTER FOUR

# RESULTS

The purpose of this study was to examine the effects that the use of simulation games had on ESL composition students as measured by objective tests of writing competency, writing samples, writing anxiety surveys, and instructional effectiveness surveys. The results of the statistical analyses and examination of the data gathered from the research instruments and interviews will be presented in the organizational pattern established in the previous chapter--instrument by instrument.

## Objective Test Results

The objective tests provided data for each of the 50 students who participated in the study. The results for both the pre- and post-treatment administrations of the *Simon and Schuster Competency Test for Writers* are organized and listed in Table IV by case number. These case numbers are identical to the case numbers used in Tables I and II. All results will be reported by case numbers; therefore, the information can be cross-referenced. A difference index (DI) is provided in Table IV to indicate the difference in points between the pre- and post-treatment scores. All numbers in Table IV are positive.

Table IV
Data from the Objective Test Results

| Exp. Case | Pre | Post | DI | Con. Case | Pre | Post | DI |
|---|---|---|---|---|---|---|---|
| 1 | 73 | 92 | 19 | 26 | 43 | 77 | 34 |
| 2 | 47 | 65 | 18 | 27 | 62 | 78 | 16 |
| 3 | 63 | 83 | 20 | 28 | 53 | 73 | 20 |
| 4 | 45 | 72 | 27 | 29 | 60 | 83 | 23 |
| 5 | 55 | 77 | 22 | 30 | 40 | 78 | 38 |
| 6 | 67 | 90 | 23 | 31 | 79 | 82 | 3 |
| 7 | 62 | 77 | 15 | 32 | 68 | 80 | 12 |
| 8 | 57 | 82 | 25 | 33 | 80 | 93 | 13 |
| 9 | 68 | 70 | 2 | 34 | 68 | 75 | 7 |
| 10 | 52 | 90 | 38 | 35 | 60 | 90 | 30 |
| 11 | 57 | 60 | 3 | 36 | 78 | 90 | 12 |
| 12 | 67 | 77 | 10 | 37 | 62 | 73 | 11 |
| 13 | 60 | 83 | 23 | 38 | 55 | 77 | 22 |
| 14 | 68 | 75 | 7 | 39 | 73 | 82 | 9 |
| 15 | 85 | 93 | 8 | 40 | 55 | 75 | 20 |
| 16 | 67 | 78 | 11 | 41 | 53 | 72 | 19 |
| 17 | 60 | 68 | 8 | 42 | 70 | 72 | 2 |
| 18 | 48 | 78 | 30 | 43 | 65 | 80 | 15 |
| 19 | 57 | 82 | 25 | 44 | 42 | 67 | 25 |
| 20 | 53 | 77 | 24 | 45 | 50 | 80 | 30 |
| 21 | 53 | 62 | 9 | 46 | 68 | 77 | 9 |
| 22 | 68 | 80 | 12 | 47 | 75 | 85 | 10 |
| 23 | 62 | 77 | 15 | 48 | 53 | 82 | 29 |
| 24 | 82 | 87 | 5 | 49 | 68 | 92 | 24 |
| 25 | 47 | 80 | 33 | 50 | 48 | 68 | 20 |

As Table IV shows, all fifty students increased their scores on the post-treatment administration of the objective test. For Cases 9 and 42, the gain on the post-test score was the lowest--2 points, and for Cases 10 and 30, the gain was the highest--38 points. Interestingly, these extreme cases occurred with equal frequency in the control and experimental groups. The average gain for the experimental group was 17.28 points, while the average gain for the control group was 18.12 points. These gains are close considering that the test consisted of 60 items worth 1.67 points each, which figures out to be a one-half question difference between the two groups. This result suggested that the two groups made similar gains in proficiency as measured by the discrete-item instrument of writing competence.

After these scores were compiled, the descriptive statistics were calculated. Those results are displayed in Table V.

Table V
Summary Statistics for the Objective Test Scores

| | Experimental Pre-Test | Control Pre-Test | Experimental Post-Test | Control Post-Test |
|---|---|---|---|---|
| Number of Cases | 25 | 25 | 25 | 25 |
| Range | 40.00 | 40.00 | 33.00 | 26.00 |
| Mean | 60.96 | 61.12 | 78.20 | 79.24 |
| SD | 10.30 | 11.71 | 8.76 | 6.98 |

The results from the descriptive statistics reported in Table V illustrate how similarly the two groups performed on the objective test. In spite of the fact that the students in the experimental group received no explicit grammar instruction, they still improved in their performance on the post-test, which, as the pre-test, consisted

mostly of discrete-item measures of grammatical concepts.

To compare the mean scores of the experimental and control groups on the pre-treatment objective tests, an independent samples *t*-test was conducted. All assumptions for this test were met. The results are presented in Table VI below.

Table VI
Results of the T-Test on the Objective Pre-Test Scores

| Statistic | Experimental Pre-Test Scores | Control Pre-Test Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 60.96 | 61.12 | 0.16 | 0.05 n.s.* |
| SD | 10.30 | 11.71 | | |

*$p > .05$, $df=48$

The results of the independent *t*-test ($t=-0.05$; $p > .05$) indicated the acceptance of the null hypothesis (Hypothesis 1); there was no significant difference between the means for the two groups on the pre-treatment objective test scores of the *Simon and Schuster Competency Test for Writers*. This finding implies that the groups started the semester and the experiment at about the same level of competence as measured by this discrete-item instrument; furthermore, the base from which to launch the treatments planned for the experiment had been established. These two groups performed equally before the treatment, so any differences in the post-test scores may be more confidently stated to have occurred due to the differences in instructional methods between the two groups. The two groups have now been shown to be similar in the variables of nationality, language backgrounds, major fields, future career plans, academic status, and performance on a discrete-item pre-test of

writing competency.

The results of the paired samples *t*-test to determine whether there were any significant differences in the pre- and post-treatment test scores within the groups are reported in Tables VII and VIII. I used paired samples *t*-tests because the scores were the result of test and re-test data. It had been hypothesized that the post-test scores would be greater than the pre-test scores for both groups as a result of the completion of the course of study, due to the treatment received by both groups. As stated previously, four months had elapsed between the pre-and post-testing administrations, and the two forms of the test were counterbalanced to combat the practice effect (J. D. Brown, p. 38). The means of the scores for the pre- and post-treatment objective tests were subjected to paired samples *t*-tests for each group to discover any significant differences between the two administrations of the objective tests. Table VII shows the results for the experimental group.

Table VII
Results of the Paired Samples T-Test for the Experimental Group

| Statistic | Experimental Pre-Test Scores | Experimental Post-Test Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 60.96 | 78.20 | -17.24 | -8.85* |
| SD | 10.30 | 8.76 | | |

*$p < .05$, df=24

The results of the paired samples *t*-test ($t=-8.855$; $p < .05$) indicated the acceptance of Hypothesis 2; there was a significant difference between the means of the pre-test and post-test scores for the experimental group. This finding suggests

that the gain in mean scores made by the experimental group in writing competency as measured by the *Simon and Schuster Competency Test for Writers* was significant. To test the rest of Hypothesis 2 statistical analysis was used to measure any gains made by the control group over the course of study. The results of the paired samples *t*-test conducted to determine any significant differences between the mean scores on the pre- and post-treatment objective tests are presented in the Table VIII.

Table VIII
Results of the Paired Samples T-Test for the Control Group

| Statistic | Control Pre-Test Scores | Control Post-Test Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 61.12 | 79.24 | -18.12 | -9.48* |
| SD | 11.71 | 6.98 | | |

*$p < .05$, df=24

For the control group, as for the experimental group, the results of the paired samples *t*-test ($t=-9.48$; $p < .05$) indicated the acceptance of the second part of Hypothesis 2; there was a significant difference between the means of the pre- and post-treatment objective test scores for the control group. The findings from the separate measures of gains in mean scores within the two groups showed that both the experimental and control groups had increased their writing competency as measured by the *Simon and Schuster Competency Test for Writers*.

After this, I performed an independent samples *t*-test on the means of the post-treatment scores for the experimental and control groups to test Hypothesis 3, and the results are listed in Table IX below. Because these scores were not the result of test

and re-test data, an independent *t*-test was used as it had been to compare the pre-treatment scores to establish the base-line for the experiment.

Table IX
Results of the T-Test on the Objective Post-Test Scores

| Statistic | Experimental Post-Test Scores | Control Post-Test Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 78.20 | 79.24 | -1.04 | -0.46 n.s.* |
| SD | 8.76 | 6.98 | | |

*$p > .05$, $df = 49$

The mean differences between the experimental and control groups on the post-treatment administration did not prove to be significant. The results of the independent samples *t*-test ($t = -0.46$; $p > .05$) indicated the acceptance of the null hypothesis (Hypothesis 3); there was no significant difference between the means of the post-treatment objective test scores for the experimental and control groups. The findings from the separate measures of gains within the two groups showed that both the experimental and control groups had increased their writing competency as measured by the *Simon and Schuster Competency Test for Writers*.

The comparison between groups, however, showed no significant differences for either the pre- or post-treatment scores on the test. The subjects in both groups had significantly increased their scores on the post-treatment administration of the objective test.

*Writing Anxiety Surveys*

The results of the statistical analyses of the data revealed that the means for the English as a Second Language-Writing Anxiety Test (ESL-WAT) pre-treatment scores were 83.60 for the experimental group and 77.16 for the control group. The control group mean was close to 78.00, the median score for the instrument, suggesting that the control group had an anxiety level of only medium intensity before the treatment. However, the experimental group started out the term with a mean score on the ESL-WAT that was higher than the median and higher than the score of the control group. This higher mean score of 83.60 occurred even though the student with the lowest ESL-WAT pre-treatment score of 38.00 was a member of the experimental group (Case 11); this score was only 12 points above the minimum score of 26 for the instrument. On the other hand, the control group included the subject (Case 35) who scored 144, the maximum ESL-WAT score for the pre-treatment administration. This score of 144 was only 12 points below 156, the maximum score for the instrument. The control group showed a minimum score of 43 on the pre-treatment ESL-WAT, but the experimental group had a lower minimum score of 38 on the pre-treatment administration of the ESL-WAT.

Table X below shows the scores for the ESL-WAT pre- and post-treatment scores and a difference index (DI) for both the experimental and control groups. The scores are presented by case to correspond with the previous display of data gathered from these subjects. Therefore, the case numbers in Table X correspond to the case numbers in Tables I, II, and IV, which display information about the gender,

nationality, major fields, academic classifications, and the objective test results. When analyzing the results from this instrument, it must be remembered that the lower scores on the test represent lower writing anxiety as it is measured by the ESL-WAT; therefore, negative numbers in the difference index (DI) provided in Table X indicates a reduction in writing anxiety levels according to the ESL-WAT.

Table X
Writing Anxiety Survey (ESL-WAT) Results

| Exp. Case | Pre | Post | DI | Con. Case | Pre | Post | DI |
|---|---|---|---|---|---|---|---|
| 1 | 105 | 96 | -9 | 26 | 107 | 102 | -5 |
| 2 | 107 | 93 | -14 | 27 | 50 | 62 | +12 |
| 3 | 109 | 109 | 0 | 28 | 59 | 70 | +11 |
| 4 | 103 | 79 | -24 | 29 | 67 | 55 | -12 |
| 5 | 108 | 96 | -12 | 30 | 44 | 57 | +13 |
| 6 | 67 | 66 | -1 | 31 | 48 | 52 | +4 |
| 7 | 63 | 52 | -11 | 32 | 47 | 46 | -1 |
| 8 | 82 | 71 | -11 | 33 | 52 | 58 | +6 |
| 9 | 75 | 66 | -9 | 34 | 84 | 77 | -7 |
| 10 | 88 | 67 | -21 | 35 | 144 | 125 | -19 |
| 11 | 38 | 41 | -3 | 36 | 79 | 76 | -3 |
| 12 | 66 | 53 | -13 | 37 | 60 | 63 | +3 |
| 13 | 87 | 82 | -5 | 38 | 100 | 86 | -14 |
| 14 | 92 | 88 | -4 | 39 | 61 | 72 | +11 |
| 15 | 73 | 71 | -2 | 40 | 125 | 110 | -15 |
| 16 | 103 | 96 | -7 | 41 | 79 | 63 | -16 |
| 17 | 77 | 43 | -34 | 42 | 70 | 57 | -13 |
| 18 | 63 | 51 | -12 | 43 | 109 | 85 | -24 |
| 19 | 76 | 60 | -16 | 44 | 94 | 89 | -5 |
| 20 | 70 | 65 | -5 | 45 | 87 | 71 | -16 |
| 21 | 85 | 58 | -27 | 46 | 43 | 56 | +13 |
| 22 | 90 | 64 | -26 | 47 | 96 | 72 | -24 |
| 23 | 97 | 95 | -2 | 48 | 100 | 87 | -13 |
| 24 | 87 | 81 | -6 | 49 | 66 | 64 | -2 |
| 25 | 79 | 79 | 0 | 50 | 58 | 42 | -16 |

Of all 50 students in both groups responding to the pre- and post-treatment ESL-WAT, only 9 cases showed an increase in writing anxiety levels as indicated by the results from the survey instrument. Of those 9 cases, only 1 was a member of the experimental group; the remaining 8 cases with an increase in writing anxiety were members of the control group. The 8 cases in the control group showed increases of ranging from 3 to 13 points on the ESL-WAT, whereas the 1 case in the experimental group showed only a 3 point increase. The experimental group also had 2 cases with no change in the score for the ESL-WAT (Cases 3 and 25).

As indicated in Table X above, 39 cases out of the 50 cases for both groups had reduced ESL-WAT levels on the post-treatment administration of the survey. The responses of Case 3 and Case 25 indicated that their writing anxiety levels had not changed during the course of the treatment. The total decrease in writing anxiety for the experimental group was expressed with the loss of 268 points on the ESL-WAT post-treatment scores, an average loss of 10.72 points per case. In comparison, the control group had only a 132 point loss on the ESL-WAT post-treatment survey, an average loss of 5.28 points per case.

The difference between the losses in ESL-WAT scores between administrations of the surveys suggested that, perhaps, the experimental group had lowered writing anxiety levels due to the effect of the treatment--the method of simulation. Therefore, statistical analyses were conducted to test Hypotheses 4, 5, and 6, which were stated in the previous chapter. First descriptive statistics were calculated for both groups, and they are displayed in Table XI.

Table XI
Summary Statistics for ESL-WAT Scores

| | Experimental Pre | Control Pre | Experimental Post | Control Post |
|---|---|---|---|---|
| Number of Cases | 25 | 25 | 25 | 25 |
| Mean | 83.60 | 77.16 | 72.88 | 71.88 |
| SD | 17.43 | 26.94 | 18.42 | 19.97 |

The results from the descriptive statistics reported in Table XI show the 6.44 point difference that existed between the ESL-WAT scores for two groups before the treatment was administered. Nevertheless, the students in the experimental group came within one point of meeting the post-treatment scores of the control group. At the end of treatment, the experimental group had registered writing anxiety levels only one point higher than the control group, indicating that their treatment--simulation--may have resulted in a greater loss of writing anxiety than the loss registered for the control group. To test this prediction statistically, a *t*-test was used to determine any differences between the means of the experimental and control groups before the treatment began, and the results are displayed in Table XII.

Table XII
Results of the T-Test on the ESL-WAT Pre-Treatment Scores

| Statistic | Experimental Pre-Treatment Scores | Control Pre-Treatment Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 83.600 | 77.160 | 6.440 | 1.0 n.s.* |
| SD | 17.493 | 26.942 | | |

*$p > .05$, $df = 48$

The results of the independent *t*-test ($t=1.002$; $p>0.321$) did not meet the critical level and indicated the acceptance of the null hypothesis (Hypothesis 4) of no significant difference between the means for the two groups on the pre-treatment scores. The acceptance of the null hypothesis indicated that the two groups started the treatment with no significant differences in writing anxiety levels as measured by ESL-WAT. Accordingly, any differences between the post-treatment levels of writing anxiety as measured with this instrument might indicate differences between the two groups due to the variable of instructional method.

The next statistical tests were conducted to determine any differences in the pre- and post-treatment ESL-WAT scores within the groups. I used the paired samples *t*-test to compare the means of the groups to discover if the treatment had affected the writing anxiety levels as measured by the ESL-WAT. Results from these statistical analyses are presented in Tables XIII and XIV.

Table XIII
Results of the Paired Samples T-Test for Experimental ESL-WAT Scores

| Statistic | Experimental Pre-Treat Scores | Experimental Post-Treat Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 83.600 | 72.880 | 10.720 | 5.615* |
| SD | 17.493 | 18.415 | | |

*$p<.05$, $df=24$

The results of the paired samples *t*-test ($t=5.615$, $p<0.001$) indicated the acceptance of Hypothesis 5. A significant difference did, indeed, exist between the

means of the pre-treatment and post-treatment ESL-WAT scores for the experimental group, suggesting that the lowered anxiety level was the result of the treatment. The next step was to measure any loss of writing anxiety between the pre- and post-treatment administrations of the ESL-WAT for the control group. The results are presented in Table XIV.

Table XIV
Results of the Paired Samples T-Test for Control ESL-WAT Scores

| Statistic | Control Pre-Treat Scores | Control Post-Treat Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 77.160 | 71.880 | 5.280 | 2.223* |
| SD | 26.942 | 19.969 | | |

*$p < .05$, df=24

The results of the paired samples *t*-test ($t=2.223$; $p < .05$) supported the acceptance of Hypothesis 5; there was a significant difference between the means of the pre-treatment and post-treatment scores for the control group. The separate measures of mean differences within the two groups suggested that both the experimental and control groups had significantly decreased their writing anxiety levels as measured by the ESL-WAT.

Although the final mean scores for the post-treatment administration of the ESL-WAT were close, only one point apart, the next statistical test was still conducted to test Hypothesis 6 and determine any differences between the means of the experimental and control groups on their ESL-WAT post-treatment scores. An independent *t*-test was used, and the results are shown in Table XV.

Table XV
Results of the T-Test for ESL-WAT Post-Treatment Scores

| Statistic | Experimental Post-Treat Scores | Control Post-Treat Scores | Mean Difference in Scores | *t* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Mean | 72.88 | 71.88 | 1.00 | 0.18 n.s.* |
| SD | 18.42 | 19.97 | | |

*$p > .05$, $df = 48$

The mean differences between the experimental and control groups on the post-treatment surveys of ESL writing anxiety were not significant. The results of the independent samples *t*-test ($t = 0.184$; $p > .05$) required the acceptance of the null hypothesis and the rejection of Hypothesis 6. The prediction that the experimental group would experience lower writing anxiety levels than the control group at the completion of the semester was not supported by this statistical analysis. However, both groups had post-treatment ESL-WAT scores that were significantly lower than their pre-treatment scores.

*Writing Samples*

The data from the writing samples, which had been evaluated and rated by three independent composition instructors, were compiled for analysis. For clarity in comparing the ratings of these three instructors and to allow comparisons between the samples of writing and the subjects' performance on the other research instruments, the results are listed by case and rater in Tables XVI and XVII for subjects from the experimental and control groups respectively.

Table XVI
Experimental Group Scores on Pre-and Post-Treatment Writing Samples

| | Pre-Treatment Ratings | | | Post-Treatment Ratings | | |
|---|---|---|---|---|---|---|
| Case | Rater A | Rater B | Rater C | Rater A | Rater B | Rater C |
| 1 | 4 | 4 | 4 | 5 | 4 | 5 |
| 2 | 1 | 2 | 2 | 3 | 3 | 3 |
| 3 | 3 | 2 | 3 | 4 | 4 | 4 |
| 4 | 2 | 1 | 2 | 3 | 3 | 3 |
| 5 | 2 | 2 | 2 | 3 | 4 | 3 |
| 6 | 3 | 3 | 3 | 4 | 4 | 4 |
| 7 | 3 | 3 | 3 | 5 | 5 | 5 |
| 8 | 2 | 2 | 2 | 3 | 4 | 3 |
| 9 | 3 | 3 | 2 | 4 | 4 | 3 |
| 10 | 2 | 3 | 2 | 4 | 4 | 4 |
| 11 | 2 | 2 | 2 | 3 | 3 | 3 |
| 12 | 3 | 3 | 3 | 3 | 4 | 3 |
| 13 | 3 | 3 | 3 | 4 | 4 | 4 |
| 14 | 2 | 2 | 3 | 3 | 3 | 3 |
| 15 | 3 | 4 | 3 | 5 | 5 | 4 |
| 16 | 3 | 3 | 3 | 4 | 4 | 4 |
| 17 | 2 | 2 | 2 | 3 | 3 | 3 |
| 18 | 2 | 3 | 2 | 3 | 4 | 4 |
| 19 | 2 | 2 | 2 | 3 | 3 | 4 |
| 20 | 3 | 3 | 4 | 3 | 5 | 5 |
| 21 | 2 | 2 | 2 | 3 | 3 | 3 |
| 22 | 3 | 3 | 3 | 4 | 4 | 4 |
| 23 | 2 | 3 | 3 | 4 | 4 | 4 |
| 24 | 4 | 4 | 4 | 5 | 4 | 4 |
| 25 | 2 | 2 | 3 | 3 | 3 | 4 |

Table XVII
Control Group Scores on Pre-and Post-Treatment Writing Samples

| | Pre-Treatment Ratings | | | Post-Treatment Ratings | | |
|---|---|---|---|---|---|---|
| Case | Rater A | Rater B | Rater C | Rater A | Rater B | Rater C |
| 26 | 2 | 2 | 2 | 3 | 3 | 3 |
| 27 | 3 | 2 | 3 | 4 | 4 | 4 |
| 28 | 3 | 3 | 4 | 4 | 3 | 3 |
| 29 | 3 | 3 | 3 | 3 | 3 | 3 |
| 30 | 2 | 2 | 3 | 3 | 2 | 3 |
| 31 | 3 | 4 | 4 | 3 | 4 | 3 |
| 32 | 3 | 3 | 3 | 3 | 3 | 3 |
| 33 | 3 | 4 | 3 | 4 | 4 | 4 |
| 34 | 3 | 3 | 3 | 3 | 3 | 3 |
| 35 | 2 | 2 | 2 | 3 | 3 | 3 |
| 36 | 4 | 3 | 3 | 3 | 3 | 3 |
| 37 | 4 | 4 | 3 | 4 | 3 | 4 |
| 38 | 3 | 3 | 3 | 3 | 3 | 3 |
| 39 | 4 | 4 | 4 | 4 | 4 | 4 |
| 40 | 2 | 2 | 2 | 3 | 3 | 3 |
| 41 | 3 | 3 | 2 | 3 | 4 | 3 |
| 42 | 4 | 4 | 4 | 3 | 3 | 3 |
| 43 | 2 | 2 | 2 | 3 | 2 | 3 |
| 44 | 2 | 2 | 2 | 3 | 3 | 2 |
| 45 | 2 | 2 | 2 | 2 | 3 | 2 |
| 46 | 3 | 2 | 3 | 3 | 3 | 3 |
| 47 | 3 | 3 | 3 | 3 | 4 | 3 |
| 48 | 2 | 2 | 2 | 2 | 3 | 2 |
| 49 | 3 | 3 | 2 | 4 | 3 | 3 |
| 50 | 2 | 2 | 2 | 2 | 3 | 3 |

Tables XVI and XVII list the ratings (on the six-point scale described in the previous chapter) for each of the 100 writing samples. The ratings for both groups are arranged in pre- and post-treatment columns and categorized by differentiating the evaluators with the designations of "Rater A," "Rater B," and "Rater C." An examination of the overall results for the subjects from both groups shows that 67% of the students performed better on the post-treatment writing sample than on the pre-treatment writing sample. However, the majority of those gains was concentrated in the experimental group which had 68 out of the 75 post-treatment ratings of all three raters show an increase over the pre-treatment ratings. Of those 68 instances of gain for the experimental group, 15 post-treatment ratings increased 2 points over the pre-treatment ratings. The control group showed a gain in only 31 out of 75 post-treatment ratings, with 1 gain of 2 points and 30 gains of 1 point on the post-treatment ratings. In the control group, 37 had no gain, and 7 even lost one point on the post-treatment ratings when they were compared with the pre-treatment ratings.

Of the 75 post-treatment ratings for the writing samples from the subjects in the experimental group, 68 ratings showed increases, which means that 91% of the experimental group improved on the writing task required after the treatment consisting of simulation as the method of instruction. Of all the ratings in Tables XVI and XVII, the only loss in points on the post-treatment writing sample as compared to the pre-treatment writing sample is for the subjects in the control group, and for Case #42 those losses were recorded by all three evaluators. However, the other 4 instances of loss were only reflected by one of the raters in each case. Raters

A and B both recorded 2 losses, and Rater C reported 3 losses in points for the post-treatment ratings. None of the raters reported any losses for the experimental group.

After examining the results from the ratings for writing samples case by case, I calculated the descriptive statistics and conducted a Spearman statistical procedure due to the ordinal data, to determine the interrater reliability. The results are shown in Table XVIII.

Table XVIII
Correlations of Writing Sample Ratings

| | Rater A | Rater B | Rater C |
|---|---|---|---|
| Rater A | 1.000 | | |
| Rater B | 0.759 | 1.000 | |
| Rater C | 0.791 | 0.720 | 1.000 |

As Table XVIII indicates, the correlations between the raters is moderate. Raters A and C are closer with a correlation coefficient of .791 ($p < .05$) than B and C with a correlation coefficient of .720 ($p < .05$).

After finding the moderate correlation between raters, I decided to investigate the differences between the ratings for the pre- and post-writing samples individually by rater. First, Mann-Whitney *U* tests were conducted to determine any significant differences between the writing sample ratings for the control and experimental groups before the treatment. In order to do this the medians of the pre-treatment ratings of the control and experimental groups for each of the raters were calculated, and the results are shown in Table XIX.

Table XIX
A Comparison of Pre-Treatment Writing Sample Medians

| | Rater A | Rater B | Rater C |
|---|---|---|---|
| Experimental Group | 2 | 3 | 3 |
| Control Group | 3 | 3 | 3 |
| Index of Difference | 1 | 0 | 0 |
| U | 250.0 n.s.* | 293.0 n.s.* | 294.5 n.s.* |

*$p > .05$

As indicated in Table XIX, none of results from the statistical analyses of the ratings on the pre-treatment writing samples showed any significant differences; therefore, the null hypothesis was accepted, and the control and experimental groups were assumed to have started the experiment at comparable levels of writing performance as indicated by the ratings of all three raters on the writing samples.

After establishing the base-line for the two groups, I conducted statistical analyses to discover any gains that the students in either group might have made in writing performance due to the treatment. The Wilcoxon Signed-Ranks test was used due to the ordinal data and the repeated samples inherent in the pre- and post-treatment situation. Results of these statistical tests appear in Tables XX and XXI for Rater A, in Tables XXII and XXIII for Rater B, and in Tables XXIV and XXV for Rater C.

Table XX
Statistics for Rater A/Experimental Group

| Statistic | Experimental Pre-Treat Ratings | Experimental Post-Treat Ratings | Difference Index | *T* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Median | 2 | 3 | 1 | 4.460* |
| Range | 3 | 2 | | |

*p < .05

Table XXI
Statistics for Rater A/Control Group

| Statistic | Control Pre-Treat Ratings | Control Post-Treat Ratings | Difference Index | *T* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Median | 3 | 3 | 0 | 2.309* |
| Range | 2 | 2 | | |

*p < .05

As shown in Tables XX and XXI, the results of the Wilcoxon tests for both the experimental group and the control group indicated that there was a significant difference between the pre- and post-treatment writing samples according to the ratings assigned by Rater A. The increase on the post-treatment writing sample was apparent in the median score difference of one point between the two administrations of the writing sample. Although the median for the control group did not differ for the two administrations according to the ratings of Rater A, there was a significant difference.

Next, the same tests were conducted for the ratings given by Rater B, and the following statistics were produced and are displayed in Tables XXII and XXIII.

Table XXII
Statistics for Rater B/Experimental Group

| Statistic | Experimental Pre-Treat Ratings | Experimental Post-Treat Ratings | Difference Index | *T* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Median | 3 | 4 | 1 | 4.420* |
| Range | 3 | 2 | | |

*p < .05

Table XXIII
Statistics for Rater B/Control Group

| Statistic | Control Pre-Treat Ratings | Control Post-Treat Ratings | Difference Index | *T* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Median | 3 | 3 | 0 | 2.500* |
| Range | 2 | 2 | | |

*p < .05

For Rater B, the results of the Wilcoxon test for the experimental and control groups paralleled those of Rater A. According to the results from statistical tests run on the data from Rater B, there was a significant difference between the pre- and post-treatment writing samples for both the control group and the experimental group. Again, the median scores for the experimental group showed the increase, this time

from 3 to 4; and the median scores for the control group stayed the same.

These statistical tests were then conducted for the ratings given by Rater C, with the results compiled and displayed in Tables XXIV and XXV below.

Table XXIV
Statistics for Rater C/Experimental Group

| Statistic | Experimental Pre-Treat Ratings | Experimental Post-Treat Ratings | Difference Index | *T* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Median | 3 | 4 | 1 | 4.400* |
| Range | 2 | 2 | | |

*p < .05

Table XXV
Statistics for Rater C/Control Group

| Statistic | Control Pre-Treat Ratings | Control Post-Treat Ratings | Difference Index | *T* |
|---|---|---|---|---|
| N | 25 | 25 | | |
| Median | 3 | 3 | 0 | 1.94 n.s.* |
| Range | 2 | 2 | | |

*p > .05

For Rater C, the results of the Wilcoxon test for the experimental group indicated that there was a significant difference between the pre- and post-treatment writing sample ratings for the experimental group. Conversely, the results for the control group indicated the acceptance of the null hypothesis of no significant

difference in the pre- and post-treatment writing samples ratings of Rater C. The scores of all three raters showed that the experimental group performed significantly better on the post-treatment writing sample, but the control group had one rater whose post-treatment ratings did not differ significantly from the pre-treatment ratings.

It had been hypothesized, as in the Troyka (1973) study, that the students in the experimental group would increase in writing competency more than the students in the control group. In order to discover if that difference occurred in this present study, the Mann-Whitney *U* test was conducted on the data from the post-treatment ratings for each rater and the results are presented in Table XXVI.

Table XXVI
A Comparison of Post-Treatment Writing Sample Medians

| | Rater A | Rater B | Rater C |
|---|---|---|---|
| Experimental Group | 3 | 4 | 4 |
| Control Group | 3 | 3 | 3 |
| Index of Difference | 0 | 1 | 1 |
| U | 419.0* | 467.0* | 471.0* |

*$p < .05$

The results indicate the acceptance of Hypothesis 9. There was a significant difference between the post-treatment ratings for the control and experimental group, based on the ratings for all three raters. The experimental group scored significantly higher on the post-treatment writing sample ratings than the control group. This result indicates that the treatment, simulation, helped the subjects in the experimental group improve their performance on the writing task.

These statistics provide quantitative evidence of the beneficial effects of using simulation to help ESL students improve their writing. In order to supplement this quantitative evidence, some examples from the writing tasks that the students completed during the semester will be provided. The writing assignments, which are listed in Table III and placed in the instructional sequence in Appendix B, prompted writing products that were based on the same information, but that displayed distinctly different voices and tone.

To illustrate the difference between the writing produced by the subjects in the experimental group, whose assignments were made within the framework of simulations, and the subjects in the control group, whose assignments were made in the traditional manner, some examples are provided and then discussed.

First, here are excerpts from the writing assignments in which both the experimental and control group members were asked to write a summary. These examples are reproduced exactly, including any errors made by the student writers:

*An Example from the Experimental Group*

*In this article, the author mentions some skills that are very important for conducting business in an intercultural context. To be a successful manager in all the fields of business, good multicultural communications abilities are necessary because effective communications helps business transactions runs smoothly. For instance if a management information systems major is sent to another country to work in a big multinational firm, he/she should possess skills in order to learn the important values and beliefs of the culture. The*

*author of this article says that if you really want to understand another culture have some idea of the origins of it's values, belief, and manners.*

*An Example from the Control Group*

*Today, working people has a variety of diversity culture and lifestyle in different environment. Suggestions for tipsheet, "Working with People From Diverse Backgrounds," contains many useful information and awareness to evaluated about cultural diversity values. Many apparent differences inbetween Americans, Asians and Hispanics workers, but majority of the cultural experiences still will to be approach. Conflicting of different ethnic and varying cultural values created tensions difficulty for the immigrants to adjusted their lifes. And suggestions from the tipsheet is identifying the cultural values in flexible dealing with an awareness training contains and messages for consulting management.*

Remember that the students in the experimental group were writing with a definite audience in mind. These students were asked to summarize the article for the chief executive officer of the company, as explained in the instructional sequence included in Appendix B. The students in the control group were assigned to write a summary under usual teacher-centered classroom circumstances: for the teacher. The voice in the excerpt from the experimental group is strong, as evidenced by the specific example that ties the information from the article to the purpose for which it was written--to help someone else understand the point of the article without having to read it. On the other hand, the voice in the excerpt from the control group is weak,

as illustrated by the lack of personalization of the information from the article. For example, the control group student writes, "suggestions from the tipsheet is identifying the cultural values" but does not attempt to deliver the meaning of the article to a reading audience that is authentic. The student from the control group who wrote the excerpt above probably knows that the teacher has already read the article and his summary becomes nothing but a redundant task. However, the student from the experimental group knows that student playing the role of the chief executive office has not read the article yet, and that the purpose of the summary is to deliver the important information to that reader. No longer is the reader a disembodied entity or only a teacher who already knows the information.

Another difference between the writing of the two groups can be illustrated with excerpts from the assignments based on the development of Sarawak. Please refer to the sequence for instruction provided for both the control and experimental groups in Appendix B to see the chronological progression of this assignment and refer to Table III for a listing of the writing assignments on Sarawak; a summary will be provided here.

To begin the simulation focusing on this problem which was to involve internet interaction with groups of composition students in Tokyo and New York City, I informed the subjects in the experimental group, who were already familiar with their roles in GLOBECORP, that they were to prepare a plan to develop a resort in Sarawak, formerly Borneo. The preparation for the assignment had already been accomplished through e-mail communication between the teachers in Tokyo and New

York and me. We had met each other through a mailing list and exchanged information, including the reading material to be provided to all simulation participants. My students as GLOBECORP employees would propose the plan for the resort; the students in New York would play the role of environmentalists who opposed the plan, and the students in Tokyo would play the role of the government officials of Sarawak who would make the final decision.

The existence of an authentic and responsive audience and a clearly defined purpose motivated the students in the experimental group to write detailed proposals in an attempt to convince the students in Tokyo playing the roles of government officials that their plan to develop Sarawak was better than the plan that the environmentalists in New York had for the land. The students used sophisticated strategies to convince the officials that they would also protect the environment, while at the same time providing needed economic advantages for the underdeveloped state. Here is an excerpt of an exchange between the students in the UCO experimental group and those in Tokyo:

*Excerpt from an E-mail Message Written by GLOBECORP Students*

*The positive effect that tourism may have on Sarawak is increasing the income for Sarawak for other development. However, once tourism are promoted, the government may need to provide facilities. This will consequently damage the living place of wild animals, and many people are forced to move. To maximize the positive effect and minimize the negative effect, we propose to expand the existing national park in Niahma to maintain*

*the natural beauty of Sarawak at our expense.*

*Tourism and development should be confined to certain areas to prevent the deforestation. We will only open a few areas for development. Most of the projects will be focused on expanding the exciting attractions such as the national parks and beaches. We will now answer the questions that you asked about our plan.*

*1. Does "cultural village" mean Kuching?*

*The cultural village is the one in Kuching. We do not understand what you mean the "relationship." Can you explain that part of question again? Although the national park is far away from the "Cultural Village" that we plan to build, we think that the tourists will willing to go over there if there are some attractions that captive them.*

*2. Where are those beaches you said about?*

*There are two beaches in Pemai and Tamai. Since Tamai Beach is near by the Pemai Beach, we not need to consider to develop both, but we'll keep one clean.*

*3. Where are those waterfalls and will tourists visit?*

*Also the waterfall is located in Renchang. From Kuching, it will take 40 minutes to reach there. The new areas are sidewalks, pathways and roads will be created so that people can visit there.*

The message sent by GLOBECORP received a reply that encouraged the further revision and refinement of the plan for development. An example of the type

of messages that supported this investment in the creation of the proposal follows:

*Excerpt of an E-mail Message Received by GLOBECORP*

*Thanks for your good proposals. We agree that Sarawak has good tourism potential. We appreciate your many complimentary comments about our country, and we will try to make Sarawak an interesting tourist destination for travelers from your countries. We have not decided exactly what attractions we will promote yet, but the infrastructure of Sarawak will be improved as a result of the work we do with you to develop tourism. Our country will be more developed and more convenient for both tourists and local residents as a result of your proposals. Roads and communication projects are necessary. Thank you for your proposals on those roads and telephone companies. Your comments on the good and bad parts of tourism development showed careful thought and consideration. We are very concerned that too much tourism may be harmful for the native people of Sarawak who live in the forests. The plan that you have to pay them to keep their culture for tourists to see is a good idea. They need to have jobs because they can't live by hunting because the trees are getting cut down by the industry. Our decision will be carefully made to avoid creating problems. Thank you for understanding our point. We will try to study the cost-sharing plan that you sent and tell you more later.*

These excerpts illustrate the interaction inherent in the simulation framework. During the creation of the proposal for the development of Sarawak, the students did

not need to perform peer evaluation with forms, which is often required in the traditional method of instruction to keep the students focused on the task. Instead they read and collaborated to improve each other's part of the proposal and put it together into a master plan. They also received input from the internet interaction, especially when the meaning was not transmitted. Then they negotiated in an attempt to understand what was unclear and to accomplish its clarification.

In comparison to the interaction and lively negotiation exemplified in the excerpt from the experimental group, the writing produced by the control group on the essay topic concerning Sarawak Development appears to be presented in a vacuum, with no purpose attached to the transmission of the information. The excerpt presented below was typical of the essays produced by the students in the control group on this topic.

*Excerpt of an Essay from the Control Group*

*Sarawak is located at the East Malaysia and West Malaysia is separated by "Laut China Selatan", South China Ocean. Even though the area of East Malaysia is double the size of West Malaysia, however, the population there is about one third of West Malaysia and East Malaysia also not as well developed as West Malaysia.*

*For developing Sarawak, first we have to start on from facilities. As we know, Sarawak is not well develop compare to other states in Malaysia, in order to develop its' tourism industry, we have to provide the tourists a safe, interested and comfortable environment to stay on. We can start to make a*

*improvement in those three areas: security, transportation, and hotel and entertainment services.*

*Security was the most important factor to concern when tourists choose to travel, because every tourists want to have a safe trip. This not only include the stability of government but also the protection form crimes. So we have to increase the number of polices and the rotations of the polices in Sarawak.*

Although the essay from which the excerpt above was taken is clearly organized, it lacks an essential ingredient: the motivation to communicate. The information in the essay is presented in a perfunctory manner, whereas the information presented in the e-mail message written by students playing the roles of GLOBECORP employees whose jobs require them to convince the audience to accept the plan is presented with a purpose and the motivation to be understood.

These examples from the students' writing supplement the quantitative evidence provided by the statistical analyses, providing support for the use of simulations to help students improve their performance on actual writing tasks.

*Instructional Effectiveness Surveys*

The data gathered from the Instructional Effectiveness Surveys was compiled for analysis. First, the mean scores for each item on the survey instrument were recorded and categorized by group. Then the responses of the experimental and control group were compared item by item. Table XXVII shows the results from each item on the survey.

Table XXVII
Mean Scores from the Instructional Effectiveness Surveys

| Item Number | Experimental Mean Scores | Control Mean Scores |
|---|---|---|
| 1 | 3.900 | 3.700 |
| 2 | 4.000 | 3.900 |
| 3 | 3.900 | 3.800 |
| 4 | 3.800 | 3.700 |
| 5 | 3.900 | 3.800 |
| 6 | 3.800 | 3.600 |
| 7 | 3.800 | 3.600 |
| 8 | 3.900 | 3.700 |
| 9 | 3.700 | 3.800 |
| 10 | 3.800 | 3.600 |
| 11 | 3.800 | 3.700 |
| 12 | 3.900 | 3.900 |

The mean scores for most of the items reflect a more positive feeling about the course from the students in the experimental group. Only item 9 resulted in a lower mean score for the experimental group than for the control group. That item concerned the relationship of the material covered in class to the tests that were given during the course. Item 12 resulted in a tie between the two groups; it concerned the recommendation of the course to others by the students completing the survey. The other items show a higher mean for the experimental group; however, to test for a significant difference between the means of the two groups, an independent *t*-test was used. The results of that test are displayed in Table XXVIII.

Table XXVIII
Results of the T-Test for Instructional Effectiveness

| Statistic | Experimental Group Results | Control Group Results | Mean Difference in Results | *t* |
|---|---|---|---|---|
| N | 12 | 12 | | |
| Mean | 3.850 | 3.733 | 0.117 | 3.023* |
| SD | 0.080 | 0.107 | | |

*$p < .05$, df=22

The results ($t=3.023$; $p < .05$) indicate the acceptance of Hypothesis 10. The mean differences between the experimental and control groups on the Instructional Effectiveness Surveys were significant. The experimental class rated the effectiveness of the instruction during the course significantly higher than did the control group.

The comments written by students in the spaces provided on the Instructional Effectiveness surveys supported the findings of the statistical analysis; the experimental group expressed greater confidence in the effectiveness of the instruction and expressed appreciation for the interactive nature of the class. The following excerpts from the comments written by the students are included to supplement the results from the statistical tests:

*I like to talk more in the classes when we do GLOBECORP.*

*The way that we got to use the e-mails to other countries helped me learn to use the internet and it was fun so I kept writing to the one in Japan after the class.*

*I have to use more English and I get better. But I don't talk in other class, only English.*

*I learn more stuff from the GLOBECORP about different countries and culture.*

*Do you have another English class like this? I want to take again.*

These comments are representative of the feelings about the group using simulation as a method of instruction. All except 7 of the 25 students in the experimental group wrote comments. Although the control group was provided the same amount of time to write comments, they did not write as many as the experimental group. Only 10 of the students from the control group wrote any comments at all and those were brief as illustrated in the excerpts below:

*I like our teacher.*

*The class needs to have more time for conversation with students to talk.*

*I learned about grammar and writing. Thank you.*

*I want to take your English class again.*

*She's doing a good job with the international students.*

These excerpts reflect the results from the survey instrument and support the literature in the field of simulation gaming that claims the method of simulation is more enjoyable for students.

The results of the statistical analyses to test the 10 hypotheses included one surprise. The writing anxiety survey results did not support Hypothesis 6, which stated that the experimental group, which was taught with simulation, would report significantly lower writing anxiety than the control group.

With a small exception for Hypothesis 7, in which the ratings for Rater C failed to show significant differences between the pre- and post-treatment ratings for the control group, all of the other hypotheses were accepted. The objective test results indicated that both groups improved equally with no significant differences due to the lack of explicit grammar instruction. The results for the statistical analysis of the writing sample ratings indicated that the experimental group rated significantly higher due to the treatment. The statistical comparison between the post-treatment ratings of the experimental and control groups supported the hypothesis that the experimental group would receive significantly higher ratings than the control group. These findings and their implications are discussed in the next chapter.

# CHAPTER 5

## DISCUSSION AND CONCLUSIONS

Although simulations and role plays had been used as procedures practiced within the confines of various methods or as an added activity to supplement other instructional methods, their effectiveness as a procedure that could sustain a semester-long course in ESL composition had not been empirically tested until this study was conducted. Its purpose was to examine the effects that a course syllabus designed exclusively around the method of simulation would have on ESL composition students. The research questions were stated as follows:

1. Would the use of simulations increase the writing competency of ESL composition student as measured by objective tests and writing samples?
2. Would the use of simulations lower writing anxiety for ESL composition students as measured by scores on writing anxiety surveys?
3. Would the use of simulations increase the students' perception of the usefulness of the class as measured by surveys on instructional effectiveness?

In order to answer these research questions and provide empirical evidence to support the use of simulation with ESL composition students, I formulated 10 hypotheses to test with statistical analyses. These hypotheses were based on the

research questions and will be discussed along with answers that I found for those questions by conducting this study.

## Summary and Discussion of the Results

The summary and discussion of results for the statistical analyses will be organized according to the 4 research instruments that were used to gather data from both the experimental group, which was instructed with simulation, and the control group, which was instructed with the traditional method.

### *Objective Tests*

The results of the statistical analyses used to test the three hypotheses that were formulated to help in answering my first research question supported the following findings:

1) The subjects in the control and experimental groups started the semester with no significant differences in writing competency as measured by the *Simon and Schuster Competency Test for Writers*.

2) Both groups scored significantly higher on the post-treatment administration of the *Simon and Schuster Competency Test for Writers* than on the pre-treatment administration of the instrument.

3) The subjects in the control and experimental groups ended the semester with no significant differences in writing competency as measured by the *Simon and Schuster Competency Test for Writers*.

At the end of the treatment period of a semester, both groups had increased

their writing competency according to this objective research instrument, but there was no difference in that gain due to treatment. The students in the control group who had received explicit grammar instruction, studying usage, did no better or worse than those students who used the language in simulations, receiving no explicit grammar instruction. This result supports Savignon's discovery in her 1972 study of French second language learners (Savignon, 1991). In her study, as in the present one, students in both the language *use* group and the language *usage* group showed no difference in performance on discrete-item tests of grammatical structure. However, Savignon noted that on communicative tasks of language use, the *use* group did show more skill than the *usage* group. The next question arose due to Savignon's findings about performance on communicative tasks. Would the experimental group, who used the language, perform better than the control group, who studied usage, on the writing samples--a communicative task? The first research question had two parts. The first part concerning the measurement made with the objective tests was answered. The subjects in the experimental group that used simulations did increase their writing competency as measured by the objective test. The second part now required an answer.

*Writing Samples*

The writing samples analyses followed the same procedure as the objective test analyses to test the three hypotheses that had been created to help in answering the second part of the first research question. The analyses conducted on the data provided by three raters, Rater A, Rater B, and Rater C, supported the following

findings:

1) For all raters, the pre-treatment writing sample ratings for the subjects in the control and experimental groups showed no significant differences.

2) For Raters A and B, the post-treatment writing sample ratings were significantly higher than the pre-treatment ratings for both groups; however, for Rater C, the post-treatment ratings were significantly higher than the pre-treatment ratings only for the experimental group, not for the control group.

3) For all raters, the post-treatment writing sample ratings for the experimental group were significantly higher than those for the control group.

Observations showed that each group made gains during the semester. However, the gains made by the experimental group exceeded those made by the control group because those gains were statistically significant, similar to the results in Savignon's study, which was described above. The students who spent more time using the language in simulations than studying it in a traditional setting performed better on the communicative task of writing.

The differences in writing competency measured by the writing sample ratings suggested that students taught with simulations performed better that those taught with the traditional method. This result supports Troyka's findings for writing proficiency. Her study and this present study both showed no difference in gains made on objective tests--hence no loss to the students in cognitive gains nor in assessment scores--and gains in actual writing tasks that exceeded the gains of the students who used no simulations.

*Writing Anxiety Surveys*

Hypotheses 4, 5, and 6 were formulated to help in answering the second research question: Would the use of simulations lower writing anxiety for ESL composition students as measured on writing anxiety surveys? The results from the statistical analyses produced the following findings:

1) The experimental group and the control group showed no significant differences in pre-treatment measures of writing anxiety as measured by the ESL-WAT survey responses.

2) Both groups showed significantly lower writing anxiety levels on the post-treatment administration of the ESL-WAT surveys than they had on the pre-treatment surveys.

3) There was no significant difference between the experimental and control groups on the post-treatment ESL-WAT scores.

The lowered writing anxiety levels of both groups at the end of the treatment suggested that writing anxiety decreased due to both the traditional and simulation gaming methods used in the instruction of the two groups. An examination of the descriptive statistics shows that the students in the experimental group decreased their mean ESL-WAT score by 10.72 points while the students in the control group decreased their mean ESL-WAT score by only 5.28 points. The results indicate that the simulations did affect individual students by lowering their anxiety about writing in English and that further research should be conducted on the variable of writing anxiety and how it is affected by methods of instruction. However, the findings from

this study can be used to answer the second research question. The use of simulations did lower writing anxiety as measured by the ESL-WAT. Even though the results showed that no significant difference existed between the experimental and control groups on the measure of post-treatment writing anxiety, the results from the statistical test used to compare the pre- and post-treatment scores on the ESL-WAT within the groups showed that the group using simulation did have a lower score after the treatment.

*Instructional Effectiveness Surveys*

In order to answer the last research question, Hypothesis 10 was created and tested with statistical analysis. The results from that analysis showed that the subjects in the experimental group had significantly higher means on the instructional effectiveness surveys. Although the scores on these surveys from the students in both the experimental and control groups indicated satisfaction with the instruction, the experimental group scored their instruction higher than the control group. These higher ratings did prove to be statistically significant. One of the benefits of simulation gaming (discussed in Chapter 2) was the anecdotal evidence that students were more favorably disposed to instruction with simulation methods. The finding mentioned above supports that anecdotal evidence.

The only item on which the control group rated their instruction higher than the experimental group was item number nine, which asked the students to rate the match between the material covered in the course and the tests administered during the course. I was not surprised by this response. The students in the experimental

group had to rely on their acquisition of the language through use, not on their learning of the grammatical concepts through the study of language usage. When they received the *Simon and Schuster Competency Test for Writers*, they felt as though they were unprepared for this test because they had not been explicitly taught grammatical concepts. However, as shown in the section explaining the objective test results, those students who felt unprepared did as well on the test as the students in the control group. No matter how well they fared on the test, the fact remains that it is still disconcerting to receive a test that appears to cover only grammar when communication has been the focal point for the course. This finding supports Cohen's (1994) call for tests and instructional assessment instruments that match the method of instruction. The third and last research question can be answered. The use of simulations did increase the students' perception of the usefulness of the class as as measured by surveys on instructional effectiveness.

## Implications for ESL Writing Instruction

Finding empirical evidence for statistically significant differences between two different methods of instruction is difficult, but this comparative method study showed that instructors who wish to enliven their classrooms by changing to simulation should do so without worrying about shortchanging their students. Also, taking into account the results of this study, teachers who are held accountable for their students' overall improvement on pre- and post-treatment tests composed of discrete grammar items do not need to fear that using simulation will adversely affect those scores. The students

in the experimental group showed no significant differences when compared with the control group in performance on the objective tests. At the same time the experimental group did rate significantly higher than the control group on the writing samples that were collected after the treatment.

The refreshing effects of the implementation of a completely new approach to composition instruction awakened me to new teaching strategies. The creation of the simulation for this study encouraged me to create more simulations to use in other courses. The implementation of these changes may help alleviate teacher burn-out and according to the findings of this study, the composition students appreciated the use of simulations in their class.

In addition, the use of simulation emphasizes the importance of audience in creating writing assignments for students. Before the study, I had not put enough effort into integrating an appropriate audience into the writing assignments. The findings produced by the statistical analyses of the writing samples in this study and the writing produced by the students in the experimental group during the study convinced me of the importance of an authentic audience for writing improvement. The use of simulations forced me to focus on the audience, often by defining the role of the interlocutor. This integral part of writing is often neglected in writing instruction, but is inherent in the simulation plot. Therefore, teachers can never eliminate this vital element in writing assigned within the simulation.

Many teachers think that simulations should be used only to provide temporary relief from real learning and that real learning has to be explicitly directed. Others

think of simulations only as one facet of an eclectic syllabus. The belief that simulations are more fun than substance was not supported by this study. Not only did the students enjoy the class, but they also showed statistically significant gains on the research instruments. One problem that I confronted in the use of simulations as an added component to an eclectic syllabus was that the students thought that it was a day off from real work. The feeling that the students did not take the simulation seriously resulted in my planning the simulation for this study to run for the entire semester. Breaking into the traditional method of lecture, reading, grammar exercises, and discussion with short-length simulations made the course appear unorganized and haphazardly planned. With the simulation running continuously throughout the semester as it did in this study, the students began to take responsibility for accomplishing tasks without teacher direction. For example, the students in the experimental group began joining their groups and working on the current project before I arrived. This situation never occurred with the control group because the traditional method requires teacher direction; therefore, the students usually do not take as much responsibility as they do when simulation is used.

Blending activities into an eclectic mixture that works for a particular group of students at a particular moment in time is difficult and requires experience. Although this eclecticism has been suggested by some prominent researchers, such as H. D. Douglas (1994), its practice in the real world of ESL instruction can overburden teachers who attempt to appropriately integrate the varied activities to implement eclecticism. Conversely, some teachers are not overburdened by eclecticism but use

it as an excuse for not planning a unified syllabus that sets course goals. Also, the tendency of publishers to provide too many publications that are packed with activities that have no unifying element or procedural instructions to help teachers integrate classroom tasks can contribute to the chaos, producing what Nunan (1991) called "a fragmented cabaret of unintegrated activities" (p. 214).

ESL students need some routine in their syllabus to help them see that the class meetings are consistently building toward a stated goal; otherwise, the discomfort that they feel in a new culture may be compounded by the constantly changing situation in their ESL classroom. Only when the syllabus for a course provides the students with some continuity can they take control of their own learning. The use of the semester-long simulation gave the students in the experimental group the opportunity to participate in their own learning. Although the traditional method used in the control group had continuity, that method is not conducive to student control; therefore, the students never showed the signs of responsibility that the students who were using simulations showed in their comfortable postures in the classroom and their willingness to move around and join different groups to work on projects.

English courses are often the only classes that ESL students attend in which they could have the opportunity to express themselves. Therefore, teachers should take the opportunity to use the two or three weekly meetings of the class to encourage self-expression and communication, both written and oral, through the consistent use of a method such as simulation. This study has shown that simulation provides the

opportunity for real learning and that simulations can be used to advantage in the ESL composition class.

## Conclusion

How did this study affect my instructional methods? After the study, I returned to the classroom reassured by the discovery that using the communicative language teaching approach to teach ESL writing through simulations would not interfere with the success that my students had been having on the objective tests used to assess the writing program. In addition, the finding that the students taught with the method of simulation improved more than the control group on the writing samples provided support for the use of simulations to be expanded to other writing classes.

Trust in a method can be enhanced with empirical proof of its effectiveness, so this study was conducted in order to prove that simulation methodology would be at least as effective as traditional methodology. It has. Accordingly, my syllabuses for all sections of ESL composition are now organized around simulations.

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APPENDIX A

Results of Previous Pre- and Post-Tests (Spring 1993)

| Student | Pre | Post | DI | Student | Pre | Post | DI |
|---|---|---|---|---|---|---|---|
| 1 | 38 | 75 | +37 | 26 | 67 | 87 | +20 |
| 2 | 48 | 68 | +20 | 27 | 67 | 83 | +16 |
| 3 | 53 | 78 | +25 | 28 | 38 | 58 | +20 |
| 4 | 55 | 87 | +32 | 29 | 37 | 50 | +13 |
| 5 | 57 | 78 | +21 | 30 | 32 | 53 | +21 |
| 6 | 38 | 52 | +14 | 31 | 40 | 63 | +23 |
| 7 | 57 | 68 | +11 | 32 | 32 | 57 | +25 |
| 8 | 55 | 75 | +20 | 33 | 58 | 85 | +27 |
| 9 | 48 | 67 | +19 | 34 | 60 | 80 | +20 |
| 10 | 43 | 68 | +25 | 35 | 57 | 78 | +21 |
| 11 | 57 | 72 | +15 | 36 | 47 | 68 | +21 |
| 12 | 58 | 68 | +10 | 37 | 42 | 75 | +33 |
| 13 | 57 | 63 | +6 | 38 | 45 | 65 | +20 |
| 14 | 63 | 78 | +15 | 39 | 52 | 77 | +25 |
| 15 | 52 | 68 | +16 | 40 | 38 | 60 | +22 |
| 16 | 58 | 72 | +14 | 41 | 67 | 72 | +5 |
| 17 | 52 | 63 | +11 | 42 | 57 | 75 | +18 |
| 18 | 57 | 72 | +15 | 43 | 43 | 70 | +27 |
| 19 | 47 | 63 | +16 | 44 | 38 | 55 | +17 |
| 20 | 52 | 63 | +11 | 45 | 58 | 75 | +17 |
| 21 | 57 | 68 | +11 | 46 | 48 | 55 | +7 |
| 22 | 48 | 62 | +14 | 47 | 35 | 68 | +33 |
| 23 | 55 | 70 | +15 | 48 | 32 | 58 | +26 |
| 24 | 58 | 75 | +17 | 49 | 57 | 75 | +18 |
| 25 | 52 | 62 | +10 | 50 | 70 | 83 | +13 |

Fall 1993 Pre- and Post-Test Results

| Student | Pre | Post | DI | Student | Pre | Post | DI |
|---|---|---|---|---|---|---|---|
| 1 | 58 | 95 | +37 | 26 | 43 | 68 | +25 |
| 2 | 43 | 73 | +30 | 27 | 60 | 68 | +8 |
| 3 | 58 | 75 | +17 | 28 | 43 | 57 | +14 |
| 4 | 43 | 83 | +40 | 29 | 43 | 78 | +35 |
| 5 | 78 | 87 | +9 | 30 | 63 | 73 | +10 |
| 6 | 70 | 83 | +13 | 31 | 67 | 77 | +10 |
| 7 | 67 | 85 | +18 | 32 | 52 | 63 | +11 |
| 8 | 43 | 62 | +19 | 33 | 63 | 73 | +10 |
| 9 | 57 | 92 | +35 | 34 | 47 | 70 | +23 |
| 10 | 43 | 67 | +24 | 35 | 73 | 78 | +5 |
| 11 | 67 | 87 | +20 | 36 | 75 | 90 | +15 |
| 12 | 58 | 73 | +15 | 37 | 62 | 77 | +15 |
| 13 | 47 | 75 | +28 | 38 | 80 | 85 | +5 |
| 14 | 67 | 87 | +20 | 39 | 67 | 85 | +18 |
| 15 | 57 | 80 | +23 | 40 | 42 | 70 | +28 |
| 16 | 63 | 87 | +24 | 41 | 65 | 72 | +7 |
| 17 | 57 | 87 | +30 | 42 | 53 | 77 | +24 |
| 18 | 60 | 78 | +18 | 43 | 52 | 60 | +8 |
| 19 | 70 | 88 | +18 | 44 | 52 | 78 | +26 |
| 20 | 32 | 65 | +33 | 45 | 60 | 78 | +18 |
| 21 | 67 | 88 | +21 | 46 | 62 | 85 | +23 |
| 22 | 58 | 82 | +24 | 47 | 60 | 78 | +18 |
| 23 | 73 | 80 | +7 | 48 | 72 | 63 | -9 |
| 24 | 73 | 92 | +19 | 49 | 52 | 75 | +23 |
| 25 | 55 | 85 | +30 | 50 | 62 | 92 | +30 |

## APPENDIX B

## INSTRUCTIONAL SEQUENCE SUMMARY FOR THE EXPERIMENTAL GROUP

The following sequence provides directions for the instructor who will facilitate the simulation entitled GLOBECORP. The material in the course packet mentioned in this summary was used in the administration of the simulation during the fall of 1994. Because the participants shape the events that occur during simulations, the following directions are provided as a guide, not as a set of regimented instructions. These instructions are presented to document the instructional sequence for the experimental group.

WEEK ONE (Pre-testing, Introductions, & Job Application Letters)

1. Tell the students to buy course packets for the semester.
2. Assign a topic to obtain a pre-treatment writing sample.
3. Administer the pre-treatment *Simon & Schuster Competency Test For Writers*.
4. Have the students complete the ESL-WAT (Writing Anxiety Surveys).
5. Briefly explain GLOBECORP, suggest possible roles/positions in the company for which students can apply, and explain how the simulation will be conducted during the semester.

(The GLOBECORP simulation will not be presented as a completed plan nor "described to death," which would give the students the impression that they had no input; instead the first few activities will be used to initiate the participants and to demonstrate that they have the power to make decisions and thus a stake in the simulated events.)

6. Ask the students to complete "Student Identification Forms." The information on the forms will help guide them in the role selection for the simulation. For example, a graphic design major may become the advertising manager for Globecorp.
7. Assign the letter of application for a Globecorp position. Refer them to the sample letters in Troyka on pages 727-729. Ask them to submit the letters during the first class meeting of the second week.

WEEK TWO (Warm-up, Collaborative Decision Making & Role Selection)

1. Collect the letters of application to use in role assignment.
2. Introduce the preliminary activity, Introduction Line Shift, as a warm-up for GLOBECORP by modeling handshaking and introductions.
3. Do the introduction line shift exercise in which all students and the teacher introduce themselves to one another all the way down the line, shifting positions until arriving back at the point of beginning.
4. While still in line, have the students number off for 5 groups.
5. Refer each group to samples of the 3 stationery letterhead designs

included in their course packet and ask them to discuss the designs, negotiate with their group members to select one for the corporation, and collaborate on a written report supporting their group's selection. The report should have a sentence in the hand writing of each student and the signature of each student in the group, so ask them to pass the paper around the circle.

6. If time remains, mix the groups so that each new group has a representative from each of the former groups. In the newly-formed groups, each member will announce and explain the decision made by his or her former group. The others will write down the name of the person reporting and summarize the report in their daily planners, which are included in their course packets.

(By the end of this activity, the students will have heard the name of everyone in the class, had discussions with at least four, possibly eight, other students, completed a collaborative writing activity, begun a journal/planner, received some information, and negotiated over the stationery to give them an active role in their new company. The instructor will have been observing the students in order to assign groups with a mix of assertive/non-assertive students.)

7. Hold the official stationery vote. They have had a chance to discuss the three choices, collaborate on a progress report, and negotiate for a group choice; now they can make their individual decisions on the stationery. They will be required to write at least a paragraph

in support of their vote on the official Globecorp stationery.

8. Count the votes and announce the final outcome for the official stationery.
9. Tell the students to record the class activities and decisions in their planners.
10. Make the role assignments and complete the students' familiarization with Globecorp.

(Some students may not be granted the position for which they applied; this situation parallels real life. Final role assignments should be made in order to equalize the responsibilities for the employees/students of Globecorp.)

11. Ask the students to create role descriptions. Students may select pseudonyms or use their own names in the creation of their business cards. (Use the Troyka exercise created on the topic of business cards to accompany this activity.)
12. Assign them to write why they selected the roles and/or names in their planners.
13. Explain the procedure for sending memos to colleagues. (Use the humorous miscommunication memo.)
14. Tell them to decide on the name of a fictitious country for the home office of Globecorp by brainstorming. (This activity serves as a model for the group project following it, in which the students create other fictitious countries who do business with Globecorp.)

15. Divide them into groups of five by numbering off (or by teacher assignment to experiment with group combinations).
16. Ask each group to create another fictitious country and a set of cultural traits for the citizens of that fictitious country, and then record them on a sheet of paper with the heading "Cultural Traits."
17. Assign them to write memos to colleagues, introducing their roles by explaining professional and personal goals, hobbies, habits, and anything else of interest; they should keep a copy for their files.
18. Remind students to record all activities in their planners.
19. Assign reading for the next class.

WEEK THREE (Research & Communication--GRAMMAR GLITCH)

1. Have each group answer the questions assigned in the course packets and collaborate on a summary of the article for the manager.
2. Deliver memos from colleagues. (Use the Business Doublespeak article.)
3. Assign students to go to the Library's CD-ROM and select "Business." Then select "Business Periodicals Index" from 1986 to present. After that, they should enter "multicultural," and they will see the entries. They should scan those entries until they find the article by Marcia Forsberg. Then they should print the entry and bring it to the next class. Also, they should find a different article of interest to

them, locate it, make a copy, and bring it to the next class.

4. Tell them to record the details of their library visit in their planners.
5. Introduce the first problem--GRAMMAR GLITCH. See the memos, letters, and examples that explain the situation in the course packet. In summary, this problem arises for Globecorp due to errors made accidentally and to the use of non-standard English on purpose in advertisements for some of Globecorp's subsidiaries. A letter threatening the boycott of Globecorp subsidiaries alerted the Chief Executive Officer (CEO) to the possibility that these errors in advertising may be contributing to the declining standards of the English language and causing problems for teachers who try to keep children from spelling the word "cool" with a "k." (Wendy's and Albertson's advertisements are examples.) Also mistakes in English have resulted in embarrassing signs in businesses owned by Globecorp. (Refer to the Goldsmith article in the course packet for examples.)
6. First, ask them to discuss the problem in a general staff meeting, making sure that everyone understands the problem. Gather other examples (like the ones in the course packet) from newspapers, magazines, and the environment to support the allegations.
7. Next, break them into collaborative work sessions with their division colleagues to decide how the situation affects their division. During the work session, ask them to produce a memo for the CEO that

explains how the division will handle the situation.

8. Assign them to study the instructions for making formal presentations included in their course packet.
9. Ask them to prepare a report for the general meeting in which all collaborators speak for at least one minute and no longer than five. Present a course of action for Globecorp to resolve the problem.
10. Record accomplishments in the planners.

WEEK FOUR (Meeting Participation & Decision-Making)

1. Allow them to present the reports assigned last week at a general meeting of all divisions.
2. The procedure will be as follows: Each division will present oral reports and then a question and answer session will be conducted by the members of the advertising division.
3. A general discussion will be held at the end of the meeting to decide the course of action for Globecorp (Debriefing).
4. Each participant will produce letters explaining to colleagues the course of action and how it will affect Globecorp and individual divisions.
5. Tell them to record accomplishments for each class period in their planners.

WEEK FIVE (Cultural Diversity & Human Relations)

1. Introduce the second problem--Lack of Sensitivity for Cultural Diversity. See related material in the course packet. In summary,

the general meeting will be used by the Human Resources Division to discuss cultural diversity and how it may contribute to misunderstandings and could also relate to problems such as employees who are habitually late.

2. The Human Resources Division will lead this discussion. (They may wish to conduct Sensitivity Training at this meeting.)
3. Ask them to review the cultural traits of the fictitious countries that they created during a previous class and to write a letter to their colleagues explaining the cross-cultural problems that outsiders could encounter when doing business in this country.
4. Lead the debriefing.

WEEK SIX (Vocabulary Expansion, Reading & Argumentation)

1. Introduce the third problem--"Señor Payroll." Do the warm-up in the course packets. Ask them to read the story and do the activities on vocabulary and persuasion strategies in the course packets.
2. Assign them to draft a memo for the CEO that explains the problem and its progression.
3. Tell them to prepare for the presentation of their side of the argument by joining with others in their division to list the arguments in their favor and decide which person will present each argument listed at the general meeting. Ask them to appoint someone to be responsible for refutation of the obvious arguments that the

opposition will use. The Oil and Gas Division will lead the meeting.

4. Announce that during the general meeting, each person must find a way to get a turn to speak.
5. Assign them to write a letter describing the impact of the final decision.
6. Tell them to record their activities, their reactions, and some methods for getting turns to speak in their planners.

WEEKS SEVEN AND EIGHT (Current Events & Opposing Views)

1. Introduce the fourth problem--Strikes, Buy-outs, & Miscommunication. See the related material in course packets. To summarize the situation, recent strikes at tire plants are causing problems for Globecorp.
2. For background information, assign them to find articles in the library about the Reich controversy with the local OKC Bridgestone plant concerning safety standards and to summarize one for the CEO.
3. Do the "Giving Instructions" activity with building blocks to illustrate problems resulting from miscommunication.
4. Tell them to read and study the related articles and meet with their division colleagues to draft a memo to the CEO concerning the effects of these strikes on their division.
5. Assign presentations summarizing the memos for the general meeting,

which will be led by the workers' representatives.

6. Remind them to record activities in their planners.

WEEKS NINE AND TEN (Vocabulary, Listening, & Support from Sources)

1. Introduce the movie *Gung Ho*--Cover the vocabulary worksheet, complete the cloze exercise, and read the reviews for the movie in the course packets.
2. Show them the movie.
3. Break them into divisional groups to discuss the parallels between the car plant in the movie and the tire plants. Assign them to write 5 similarities and 5 differences in a memo to their colleagues.
4. Tell them to read the memos from their colleagues and respond.
5. Assign them to write a letter to the president of Assan Motors (from the movie), which has recently been acquired by Globecorp, explaining how their division wants Assan Motors to progress. Tell them that this letter will arrive the day after the scene in which the movie ended. They have been given all of the information (in the movie) concerning the ways in which the previous transfer of power resulted in a disaster, so they should include specific referrals to the errors made. The goal is that the next transfer of power (to Globecorp) will be smoother, especially for their division because their jobs depend on it.
6. Introduce the fifth problem--Movie Promotions and Stereotypes. To

summarize the situation, Assan Motors is a prototypical "multicultural mess." Globecorp decides to make a movie about it through their Disney subsidiary. The problem arises when the characters for the movie, similar to *Gung Ho*, all seem to be stereotypical and flat. (Refer them to the text and course packet for definitions.) The promotions division believes stereotypes are the only way to make the movie work. The Marketing Division is having trouble with the media over this situation. (See the Horn article.)

7. Assign the Marketing Division to find methods of marketing products to be released and sold along with the movie and to lead the discussion at the general meeting over how to resolve the problem of stereotypes.
8. Break them into divisional groups to prepare reports for the meeting.
9. Ask them to record all activities in their planners by date.

WEEKS ELEVEN & TWELVE (The Environment, E-Mail, & Proposals)

1. Introduce the sixth problem--Disney in D.C. In brief, Disney, a subsidiary of Globecorp, plans to construct a historical amusement park near Washington, D.C. The opposition speaks out in an article included in the course packet.
2. Assign the divisions to prepare a report on the future amusement park's impact on the area.

3. Ask them to write memos to colleagues to compare notes on the situation.
4. Tell them to read the memos and respond.
5. At a general meeting, assign the Acquisitions Division to lead the discussion.
6. Ask them all to cast votes on whether to move forward on the project.
7. Request that they record activities and reactions in their planners.
8. Ask the Management Information Systems Division to make a presentation on the use of internet communications for the other divisions.
9. Introduce the seventh problem--Resort Development in Sarawak. Refer to related articles in the course packet and videorecorded reports. In summary, this internet project concerns the impending development of the island community of Sarawak in East Malaysia. Classes in Japan and New York join in the debate as members of an environmental group called LOLA (Leave Our Land Alone), and as government officials of Sarawak respectively. (Participants in all three locations have been given identical reading material for background information, but students can choose to research the topic in greater depth.)
10. Ask the Environmental Affairs Division to lead the general meeting to discuss and explain the situation.

(The student/participants will be familiar with the plans for resort development because they have just completed the Disney in D.C. discussion.)

11. Assign them to write individual introductory messages to their assigned counterpart in Japan and New York. (They can use the profiles of their roles written previously and saved.)
12. Break them into divisional groups to write and send a group e-mail message concerning the stance that their division is taking in this controversy.
13. Assign them to write group proposals to send to the Sarawak council in New York, reminding them that the members of LOLA in Japan are writing e-mail messages opposing any development by outside corporations.
14. Remind them to check their e-mail for the decisions made by the Sarawak Council (students in New York).
15. Debrief them after the decision is received and remind them to record all activities in their planners.

WEEK THIRTEEN (Geographically Dispersed Collaboration/Negotiation)

1. Introduce the eighth problem--Hostage Negotiations. Refer to the course packet for information and material. In summary, the Globecorp employees serving as an advance team in Sarawak are being held as hostages by an extremist faction of LOLA.
2. Tell them to establish contact with the officials of LOLA and the

Sarawak council by e-mail to negotiate for the release of the hostages. E-mail messages are written by all students to their counterparts, with whom they have already formed a relationship.

3. At the general meeting, ask each one to present the discoveries that they have made about the situation from their individual e-mail communication.
4. Break them into divisional groups to plan a strategy and write a group e-mail message to the faction holding the hostages, the LOLA officials, and the Sarawak Council.
5. Assign them to continue the negotiations until the situation is resolved.
6. Tell them to record daily progress in their planners.

WEEK FOURTEEN (Employee Issues & Comparison Strategies)

1. Introduce the ninth problem--Health Care/Medical Benefits. Refer to the related material in the course packet, and compare medical benefits for Globecorp's subsidiaries. Tell them to interview working students also.
2. Assign them to fill out insurance forms and read the comical accident reports included in the course packet.
3. Suggest that they compare medical benefits with counterparts in other countries by e-mail messages and internet research.
4. Tell them to meet in divisional groups to discuss health care programs and plan a report for the general meeting.

5. At the general meeting, they will discuss the options, vote, and participate in the debriefing.
6. Ask them to record their decision and the logic behind that decision in their planners.

WEEK FIFTEEN (Accomplishments, Resignation Letters, & Final Debriefing)

1. Assign them to write a letter resigning from their positions at Globecorp. Tell them that the letter can be positive or negative, depending on how they feel about Globecorp at this point.
2. Ask them to complete post-treatment writing anxiety surveys.
3. Tell them to make the final entry in their planners and submit them.
4. Administer the objective post-test.

WEEK SIXTEEN (Finals Week)

1. Conduct the final debriefing.
2. Conclude the simulation.

## INSTRUCTIONAL SEQUENCE SUMMARY FOR THE CONTROL GROUP

The following summary presents the instructional sequence for the control group. It is presented for comparison with the sequence for the experimental group. Each topic listed below was presented in the traditional lecture-discussion format. I made an effort to keep the two groups similar in every area except the method of instruction.

WEEK ONE (Pre-testing, Introductions, & Job Application Letters)

1. Tell the students to buy course packets for the semester.
2. Assign a topic to obtain a pre-treatment writing sample.
3. Administer the pre-treatment *Simon & Schuster Competency Test For Writers.*
4. Have the students complete the ESL-WAT (Writing Anxiety Surveys).
5. Discuss the syllabus and explain the assignment schedule.
6. Ask the students to complete "Student Identification Forms."
7. Assign the letter of application. Refer them to the sample letters in Troyka on pages 727-729. Ask them to submit the letters during the first class meeting of the second week.

WEEK TWO (Generating Information, Essay Organization, and Sentence Structure)

1. Collect the letters of application.
2. Present the techniques of freewriting, brainstorming, and mapping.
3. Model these idea generation methods in class.

4. Pair the students up to introduce themselves to each other.
5. Ask them to introduce their partners to the rest of the class.
6. Assign a paragraph reaction to the reading assignment.
7. Number the students off for 5 groups and ask them to pass their paragraphs to the student sitting to the right of them in the circle.
8. Tell them to read the paragraphs, write a one sentence reaction, and pass it to the right again.
9. Ask them to continue passing the paragraphs until they have read all of the paragraphs written by their group members.
10. If time remains, mix the groups so that each new group has a representative from each of the former groups and repeat the procedure.

(By the end of this activity, the students will have heard the name of many students in the class, interacted with at least five, possibly ten, other students, completed a peer review activity, begun a journal, and received some instruction on essay organization. The instructor will have been observing the students in order to assign groups with a mix of assertive/non-assertive students.)

11. Ask the students to expand the paragraphs into an essay, referring to the comments of their readers, the sample in their course packet, and the information in Troyka Chapters 1, 2, and 3.
12. Assign their journals and explain the suggested topics.
13. Discuss the assigned reading from the chapter on parts of speech and

sentence structure (Troyka Chapter 7).

14. Go over the exercises on sentence structure included in their course packet.

15. Remind them that their assignments are listed in the course packet.

WEEK THREE (Introduction of Research Strategies, Revision, & Verbs)

1. Assign partners for completion of the peer evaluation sheets.
2. Collect the peer evaluations and the drafts of the essays.
3. Assign students to go to the Library's CD-ROM and select "Business." Then select "Business Periodicals Index" from 1986 to present. After that, they should enter "multicultural," and they will see 22 entries. They should scan those entries until they find the article by Marcia Forsberg, then print the entry and bring it to the next class. Also, they should find a different article of interest to them, locate it, make a copy, and bring it to the next class.
4. Present the information on verbs, using Chapter 8 in Troyka.
5. Cover the answers for the assignments on verbs.
6. Return the essay drafts with revision comments.
7. Explain the revision codes in Troyka.
7. Tell them to revise the essays for the first class period of next week.
8. Assign the journal entry and remind them of the assignments printed in the course schedule.

WEEK FOUR (Editing, Paragraph Development, & Agreement)

1. Collect the revised essays.
2. Present subject-verb agreement (Troyka Chapter 11).
3. Cover the answers for the exercises from Chapter 11.
4. Present pronoun-antecedent agreement, also in Chapter 11.
5. Discuss Chapter 4 on the development of paragraphs.
6. Assign the next essay topic.
7. Do a circle writing activity.

WEEK FIVE (Comparison Strategies, Coordination and Subordination)

1. Present the "Journalist's Questions" (Troyka Chapter 1). Also refer them to the related material in the course packet.
2. Introduce subordination and coordination. Refer to the assignments in Troyka Chapters 17 and 24.
3. Ask them to review the material in Chapter 7 Section p.
4. Introduce the peer evaluation of the essay drafts. Use the form in the course packet.
5. Ask them to complete revisions on the essay for the first class period of next week.
6. Assign the journal topic.

WEEK SIX (Vocabulary Expansion, Reading Comprehension, & Argumentation)

1. Introduce the material in Chapter 6.
2. Do the vocabulary exercise in the course packet.

3. Ask them to read the story and do the activities on persuasion strategies in the course packets and in Troyka.
4. Assign them to write a summary of the story.
5. Discuss the story with the class.
6. Tell them to draft an essay expressing their position on the controversy.
7. Assign partners for peer review using the "Revision Checklist for Written Argument" on page 157 in Troyka.
8. Tell them to prepare a final draft for next week.
9. Assign the journal topic. Remind them of the grammar assignments in the syllabus.

WEEKS SEVEN AND EIGHT (Current Events & Commas)

1. Introduce the articles on the strike. See the related material in course packets.
2. For background information, assign them to find articles in the library about the Reich controversy with the local OKC Bridgestone plant concerning safety standards and to summarize one.
3. Tell them to read and study the related articles and to write a memo giving their opinion of the strike.
4. Ask them to submit the memos.
5. Present the information on comma use and cover the answers for the exercises.
6. Assign the journal topic.

WEEKS NINE AND TEN (Vocabulary, Listening, & Support from Sources)

1. Introduce the movie *Gung Ho*--Cover the vocabulary worksheet, complete the cloze exercise, and read the reviews for the movie in the course packets.
2. Show them the movie.
3. Present and discuss the parallels between the car plant in the movie and the tire plants.
4. Assign them to write about the similarities and differences in a comparison essay.
4. Tell them to refer to their syllabus for related reading assignments from Chapters 31, 33, and 34.
5. Introduce the vocabulary section in Troyka (Chapters 20, 21, and 22).
6. Cover the answers for the exercises that they were assigned to complete.
7. Assign the journal topic.

WEEKS ELEVEN & TWELVE (E-Mail, Punctuation, and Introductions)

1. Introduce the students to the procedure for using their computer access.
2. Assign keypals and tell the students to write them messages once a week and to send copies to your e-mail address.
3. Discuss the reading assignment.
4. Present information on punctuation and cover the answers for the exercises.

5. Ask them to complete the exercise on introductory paragraphs in the course packet.
6. Assign the essay topic.
7. Tell the students to bring their drafts for peer evaluation.
8. Ask them to use the peer response forms in the course packet to respond to to their partners' drafts.
9. Collect the drafts for teacher response.
10. Give them the topic for their journal entry.

WEEK THIRTEEN (Fragments, Misplaced Modifiers, and Conclusions)

1. Return the drafts for revision.
2. Present information on fragments and cover exercises.
3. Illustrate misplaced modifiers with examples from the students' essays.
4. Discuss conclusions, using the information from Troyka as a source.
5. Do the exercises on concluding paragraphs in the course packet.
6. Collect the revised essays.
7. Assign the topic for their journal entry.

WEEK FOURTEEN (Participles, Infinitives, & Paragraph Development)

1. Refer to them to the in the course packet related to gerunds, infinitives, and participles.
2. Assign them to complete the exercises in Chapter 45.
3. Present the lecture on participle phrases.
4. Cover the answers for the exercises.

5. Assign the essay topic.
6. Announce the topic for the journal entry.

WEEK FIFTEEN (Review, Final Essay, and Portfolio Submission)

1. Collect the essays.
2. Conduct a portfolio workshop.
3. Present a review.
4. Ask them to complete post-treatment writing anxiety surveys.
5. Tell them to make the final entry in their journals and submit them.
6. Administer the objective post-test.

WEEK SIXTEEN (Finals Week)

1. Collect the portfolios.
2. Conclude the semester.

# APPENDIX C

**OKLAHOMA STATE UNIVERSITY**
**INSTITUTIONAL REVIEW BOARD**
**HUMAN SUBJECTS REVIEW**

**Date:** 09-01-95 **IRB#:** AS-95-038

**Proposal Title:** THE USE OF SIMULATIONS IN ENGLISH AS A SECOND LANGUAGE (ESL) INSTRUCTION

**Principal Investigator(s):** Ravi Sheorey, Mary Spelman

**Reviewed and Processed as:** Exempt

**Approval Status Recommended by Reviewer(s):** Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

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Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Provisions received and approved.

Signature: _____ Date: October 10, 1995
Chair of Institutional Review Board

VITA

Mary Dean Spelman

Candidate for the Degree of

Doctor of Philosophy

Thesis: USING SIMULATION IN ESL WRITING INSTRUCTION: A COMPARATIVE METHOD STUDY

Major Field: English

Biographical:

Education: Graduated from Jones High School, Jones, Oklahoma, in May 1967; received Bachelor of Arts degree in English and a Master of Education degree in English from the University of Central Oklahoma, Edmond, Oklahoma, in May 1971 and December 1976, respectively. Completed the requirements for the Doctor of Philosophy degree with a major in English (Teaching English as a Second Language) at Oklahoma State University, Stillwater, Oklahoma, in December 1996.

Experience: Taught English for 21 years; presently employed at the University of Central Oklahoma as an assistant professor in the English Department.

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