Morpheme Acquisition In Second Language Learners

2004

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MORPHEME ACQUISITION IN SECOND LANGUAGE LEARNERS

by

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B.A. Rollins College, 1997

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
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This study explored morpheme acquisition in learners of English as a Second Language (ESL). Specifically, it looked at the development of eight selected individuals from Korea over the course of an intensive 8-week instruction program and tracked their acquisition of three specific English morphemes: indefinite articles used with singular count nouns, progressive -ing forms, and third person -s markers. The individuals were given an assessment test to place them at the correct level within the program prior to their selection for the study. The participants provided four sets of data in the form of writing samples at fixed intervals during the eight weeks. The results were evaluated and documented in the pages that follow. Improvement was shown in raw performance data on the morphemes, and a significant correlation was found for both the indefinite article and progressive –ing morphemes in number of correct responses.
To my best friend and wife, who inspires me to reach my full potential
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INTRODUCTION

Following an abundance of interest and publication until the late 1970s, research into morpheme acquisition in second language learners of English has lain relatively dormant over the last twenty years. Of the few recent articles related to this area of study, authors such as Pienemann (1992), Long, Inagaki, and Ortega (1998), and Toth (2000) have made contributions to the subject. The current study sought to revisit that research while exploring a new dimension, that of native Korean speakers and their acquisition of the English language. Of all the countries in the world whose students study English in the United States, Korea provides the second largest number of Intensive English Program students, according to data collected by the Institute of International Education and reported in 2003. Within the environment of the classroom, the students themselves constitute one element of that environment. Being aware of individual student factors, such as cultural background, language background, or other similarly related factors may help the instructor provide a better environment for language acquisition. The current number of Korean learners in the classrooms today and the need for awareness of their individual factors provide reasons for revisiting these acquisition studies.

The term *acquisition* has several definitions. Ellis (2001) points out two divergent perspectives on defining this term. One definition looks at acquisition as onset or initial introduction of new forms into a learner’s productions. Another definition views acquisition from grammaticality judgments, comprehension, and production. Ellis
(2001) further comments that the second of these two definitions is the subject of some controversy, since no adequate measure has been developed to address grammaticality, comprehension, and production together. Oral and written measures yield potentially different results, and the element of spontaneity in production is a key factor in whether or not the acquisition has taken place. Many of the previous studies on morpheme acquisition collected and analyzed oral productions.

This study, however, focused on only the written production of the desired morphemes in the controlled setting of a classroom using a pre-designed instrument. Additionally, the analysis of that production concentrated on how closely the participants matched native speaker discourse patterns while abiding by grammar rules for each morpheme. By choosing only to evaluate the written production, the focus is placed only on grammaticality judgments and production and not comprehension, thus avoiding the controversy mentioned by Ellis (2001). This decision is supported by Larsen-Freeman (1980), as she cites work by Vander Brook, Schlue, and Campbell (1980) and Celce-Murcia (1980), indicating that the context for producing a grammatical structure affects the production itself.

Production may be defined in this context in two ways. Oral production may comprise individual sounds or phonemes, words, clauses, or sentences that are generated by a student. This type of production may be recorded and perhaps transcribed for evaluative purposes. Written production may constitute symbols or letters; morphemes, which are parts of words or words themselves; clauses; sentences; and paragraphs recorded by a student in some written form, including handwritten, typed, or
computerized media. This written media may then analyzed for a particular element or feature outlined in a given study.

Avoidance is a feature sometimes included in language studies. This feature involves an awareness of a student’s deliberate or even unconscious effort to use only those structures with which he or she feels comfortable. This does not necessarily imply that the comfort equates to mastery of the structure. However, if a student feels unsure about a structure, they may avoid using that structure to eliminate the possibility of making a mistake or because they are uncertain if the structure fits the situation. An example of this may be restating a sentence in a general context to avoid using the progressive forms because he or she may be uncertain of progressive forms: “They eat ice cream,” instead of “They are eating ice cream.” These are not the only situations in which avoidance occurs, but they are too numerous to outline individually.

Language is often studied in the context of first language (L1) and second language (L2). An individual’s first language is generally his or her native language. A native speaker would then be one who acquired a given language as his or her primary language. The next language studied by the same individual would be his or her second language. Often, if an individual has studied other languages besides their L1, these other languages are each referred to as L2, because their acquisition is different than that of L1. Differences between the acquisition of first language and second language do exist, but they are the subjects of many other studies. The current study focuses only on second language acquisition (SLA) in an Intensive English Program (IEP).
Intensive English Programs are characterized by immersion of the student in the language being studied. All instruction occurs in L2, all interactions with teachers and staff are in that language, and fellow students also are held to the same restrictions, essentially eliminating the use of the individual student’s L1 in favor of L2 exposure. These requirements may be difficult to enforce outside of class, but within the school and the framework of learning the second language, they are fixed rules. The program lasts most of each day and the students are often preparing themselves for business or to study at an English-speaking university, perhaps in the United States. This study focuses on such students, specifically the acquisition of English by IEP Korean learners.

Research question

At the time most of the prior research on second language acquisition was done, Korean-speaking students did not constitute the same proportion of foreign students that they now do in the United States. Based on the fact that they now comprise the second largest group of foreign students coming to the United States to study English, this study explores the research question:

Do second language learners of the same native language background exhibit the same or a similar growth in the acquisition of 3 morphemes, indefinite articles, progressive -ing, and third person -s, on writing samples collected at regular intervals during that 8-week intensive course?
The majority of the sources located and considered in this literature review date from the mid to late 1970s. These texts deal primarily with the order of morpheme acquisition. The effect of formal language instruction on the order of morpheme acquisition is discussed (Perkins & Larsen-Freeman 1975), as well as the construction of a second language acquisition index (Larsen-Freeman & Strom 1977). The relatively low number of publications on the subject in recent years leads to a focus on the state of research as it has remained since the 1970s.

**Order of Morpheme Acquisition**

Dulay and Burt (1973) present their study of English language acquisition in Spanish-speaking children. This article outlines two sequential studies done in the same year. Dulay and Burt chose first to collect data on the children’s natural oral production of English structures, citing the virtual absence of studies on child L2 acquisition and a desire to determine whether the production resulted from the habit formation L2 acquisition theory or a creative acquisition as was theorized for L1 acquisition. This creative acquisition would allow the children to correct themselves over time as they produced incorrect forms and contrasted them with the correct forms they heard from native speakers.

To collect data for this study, Dulay and Burt (1973) employed the Bilingual Syntax Measure (BSM), which is designed to measure a child’s acquisition of English
and/ or Spanish grammatical structures in an L2 situation. The instrument presents seven colorful cartoon images and a set of 66 questions. The questions are divided into 33 English language questions and 33 Spanish language questions. The instrument is designed to minimize avoidance of the desired morphological structure. The researcher posed a question to a child and the child’s response was recorded. The responses from 145 children were then analyzed and categorized into three types: developmental, which were similar to the creative L1 acquisition errors, interference, which matched Spanish language structures, and unique errors, which could not be placed in either of the previous two categories.

The most important implication of the first study in Dulay and Burt’s 1973 article is the fact that the errors fell primarily in the developmental category. From this, they assert that children acquiring a second language follow a similar pattern to their acquisition of their L1.

The second study presented in the article (Dulay and Burt, 1973) builds on their findings from the first study. This time, they explored the acquisition sequence of L2 learners, again using native Spanish-speaking children and the BSM. The study included 151 students from three different geographic areas, including Sacramento and San Ysidro in California, and East Harlem in New York. In this study, Dulay and Burt focused on morphological structures such as progressive -ing, articles, the third person –s marker, and several others. No distinction was made between indefinite and definite articles.

In this article, Dulay and Burt (1973) introduce the term “obligatory occasions,” or situations in which a morphological form is required. They chose to analyze the data
collected from these occasions with degrees of acquisition. Absence of the form scored 0 points, misformed structures scored 0.5 point, and correct responses scored 1 point. The sum of these scores formed the numerator of a ratio with the denominator being the total number of responses.

When looking at the scores charted by Dulay and Burt (1973), a focus on the three target morphemes from the current study of Korean learners reveals that the progressive-\textit{ing} scored the highest, followed by articles and lastly the third person -\textit{s} morpheme. It is important to note here that Dulay and Burt’s 1973 study differs from the current study, in that they collected oral production data from children, rather than collecting written data from adult learners. Additionally, they made no distinction between indefinite and definite articles, contrary to what was done in the current study. One important similarity is the use of pictures to elicit natural production, but the use of specific questions to prompt the written responses could lead the respondent to the desired morpheme and compromise the natural production of the target morphemes.

Dulay and Burt (1974) continued the research they had begun in 1973 by conducting a new study of children who were native speakers of Spanish or Chinese. They found that the acquisition pattern between Spanish learners of English and Chinese learners of English was approximately the same. These findings when compared with the findings of the current study lend support to the idea of a universal L2 acquisition process among nonnative learners.

Bailey, Madden, and Krashen (1974) tested two hypotheses with regard to adult learners: that adults learning a second language will show agreement with each other on
difficulty of morphemes, and that the rankings for the adults will be more similar to those for children learning English as L2 rather than to those learning English as their L1. Engaging 73 adult learners, some in an intensive English program and others in an evening continuing education program, Bailey, Madden, and Krashen used the BSM to elicit oral samples of English language production. Eight morphemes were targeted, including progressive -\textit{ing}, articles, and third person -\textit{s}. Each participant in the study was tested individually by two undergraduate students from the Queens College Linguistics Department. Pearson product-moment correlations were performed on the participants’ relative accuracy when using the eight morphemes.

A chart of the results from Bailey, Madden, and Krashen’s 1974 study shows two different plots. One plot of non-Spanish speakers follows a similar pattern of morpheme accuracy as the children L2 learners in Dulay and Burt’s studies (1973 and 1974), with particular attention to the progressive -\textit{ing}, articles, and third person -\textit{s}. The Spanish speakers showed a higher relative accuracy for articles than progressive -\textit{ing}. Overall, however, when the adults were compared as a single group, they did follow a similar pattern to the children L2 learners.

Bailey, Madden, and Krashen (1974) conclude their article by suggesting that while Dulay and Burt (1973) implied that some instruction of children was unnecessary, Bailey, Madden, and Krashen state that instruction is directly related to English language proficiency and that adults seem to benefit from instruction. They recommend a study be conducted which tests the hypothesis that the most effective instruction is one with a syllabus in keeping with the findings of these morpheme acquisition studies.
Perkins and Larsen-Freeman (1975) also conducted a study with Spanish and Chinese learners of English, and in their article they discuss the research on Spanish speaking groups by Dulay and Burt in both 1973 and 1974, as well as their own work with similar groups of learners. While all of these studies researched children, Perkins and Larsen-Freeman (1975) did note that Bailey, Madden, and Krashen (1974) found similar results with adult learners. Perkins and Larsen-Freeman additionally observed that all the test subjects in all of the studies were receiving formal English as a Second Language (ESL) instruction.

Perkins and Larsen-Freeman (1975) explored progressive -ing, indefinite articles, definite articles, third person -s, and four other forms as the targeted morphemes. There were two instruments: a translation of 15 first language (L1) sentences into English and a short video without dialogue on which the test subjects had to comment in English. Amid their discussion of the instruments, they highlight problems that arose in both the pilot and actual study administrations of the video instrument, specifically that the test subjects were able to avoid producing the target morphemes. This avoidance prevents the researcher from determining if an error has been made or if the participant simply is uncertain of the correct form, preferring to use a more familiar or comfortable one. They suggest that for their specific problem, a sacrifice in participant response freedom would alleviate some of the avoidance issues. The current study of Korean learners took this into account in providing prompts for the participant responses.

The study by Perkins and Larsen-Freeman (1975) consisted of two administrations of the instrument, with the students receiving formal instruction on all
morphemes in rank order except the targeted morphemes. Like those of Dulay and Burt (1973) and Bailey, Madden and Krashen (1974), Perkins and Larsen-Freeman’s results also showed the same sequence for the progressive -ing, articles, and third person -s. Of particular interest here is the distinction between indefinite and definite articles made in Perkins and Larsen-Freeman’s study, since the current study also makes the same distinction and focuses solely on the indefinite article. Perkins and Larsen-Freeman (1975) note the difference in semantic specificity or non-specificity when using the definite or indefinite article.

The results compiled in both tests were not significant for an influence of formal instruction on the order of acquisition. For the translating portion especially, there was little improvement in the morphemes taught, but the authors concede it could be a result of the aural/oral approach to the instruction.

One of the greatest problems with the study by Perkins and Larsen-Freeman (1975) was overestimating the subjects’ abilities to produce English sentences. Additionally, problems of how much freedom the students have to respond and the ability to avoid producing the target morphemes must be addressed with a carefully constructed instrument.

All of these elements speak directly to the research topic of the current study on morpheme acquisition in Korean second language learners, though the present test participants were of a different L1 origin than Perkins and Larsen-Freeman had used. Perkins and Larsen-Freeman (1975) appear to have analyzed the data very thoroughly, considering the problems noted in their analysis of the results and the realization that one
research question lacked support for a thorough investigation. Their reference list is rather short, comprised of only seven entries, but this could be indicative of a lack of published material available at that time on the topic.

Larsen-Freeman (1976) provides an explanation of the morpheme acquisition order of second language learners. She begins by briefly revisiting the prior research done by Dulay and Burt (1974), as well as by Bailey, Madden, and Krashen (1974), both also cited in her 1975 collaborative article with Perkins. Based on their findings, she sought to discover if the same order would exist with different data collection methods and if that data would be helpful in explaining the data from the Bilingual Syntax Measure (BSM). In her first footnote, however, she suggests that the term accuracy order may be more precise than acquisition order in describing a measure of the percentage of accurate uses of a morpheme.

Larsen-Freeman’s (1976) study involved five tasks administered to 24 adult ESL learners, six subjects of Arabic, Japanese, Persian, and Spanish native language backgrounds. A brief description of some of the results is immediately followed by a discussion of additional testing measures required to further explain the findings. Larsen-Freeman suggests that a theory that explains syntactic complexity is required, which as of publication of this article did not exist to her knowledge. A theory in Transformational Grammar, the “derivational theory of complexity”, was adopted and modified by Brown (1973, as cited in Larsen-Freeman 1976) for the same purpose. Brown’s work was in L1 acquisition, but may have some relevance under the umbrella of learning English syntax.
Larsen-Freeman (1976) goes on to explore the concept of morpheme acquisition from a number of researchers’ work. She includes tables to illustrate her points from the studies. She finally returns to her conclusion, albeit tentative, that morpheme acquisition in native speakers’ speech is the principal determinant of oral morpheme production order in second language (L2) learners of English. She suggests that additional evidence is required to substantiate these findings. The current study appears to substantiate the findings, but for written production rather than oral production.

Overall, Larsen-Freeman’s analysis from 1976 appears to be thorough, but it relies heavily on Brown’s L1 research (Brown 1973, as cited in Larsen-Freeman 1976). This reliance might possibly influence the accuracy of the findings, since his study used three L1 native-speaker children and her study used 24 adult ESL learners with four different native language backgrounds. As has been noted by other researchers such as Scovel (2000), L1 and L2 acquisition are different, as is the learning of children and adults, especially initial cognitive functions versus developed cognitive ability.

Larsen-Freeman and Strom, in their 1977 article on indexing development of second language acquisition, begin with an acknowledgment that a need exists for an index of development for second language learners. They discuss prior research by Hakuta (1975, as cited in Larsen-Freeman & Strom 1977), but also point out some flaws in the research, such as some variables could not be tested.

Larsen-Freeman and Strom (1977) then discuss a research project in progress at the time of publication, in which writing samples were collected from 48 non-native test subjects enrolled at the University of California, Los Angeles. Originally, Larsen-
Freeman and Strom began by having two researchers give their impression of the proficiency of the text’s author, ranging from one to five, with five being excellent. Grammatical errors were noted, as well as lexical choice errors. In performing an initial review of the results, Larsen-Freeman and Strom noted that problems arose in weighting the errors made by the test subjects. Their native language influence, as well as proficiency levels, created too many variables to accurately weigh the significance of an indefinite article omission over a mistakenly chosen lexical item. This also would imply a linear development for language acquisition, which has been shown to be non-linear in research by Henning, Hakuta, and others, as cited by Larsen-Freeman & Strom (1977).

Larsen-Freeman and Strom (1977) present a discussion Hunt’s T-unit, or minimal terminal unit, which is essentially an independent clause. In counting the number of error-free T-units, a practice done by Scott and Tucker (1974, as cited in Larsen-Freeman & Strom 1977), Larsen-Freeman and Strom focused on 37 samples of the 48 collected, because they were of an appropriate length. The analysis showed an increase in both the length of each T-unit and the number of correct T-units per sample as the proficiency level increased. This was considered as a means of evaluating the data collected in the current study on Korean learners. It is positive to note that the authors were conscious of the difficulty in rating one error over another and reevaluated their study to find an appropriate measure, while still retaining the data collected for possible other uses. The tables presented in the text were considered as models to illustrate the results of the current study on Korean learners, but since the T-unit was not used as the evaluation tool, the tables were also not used.
Larsen-Freeman (1978), however, describes progress being made at the time of publication on work related to an ESL index of development. She argues logically and metaphorically for the need to establish some frame of reference when discussing proficiency in a second language, but when discussing the particulars of her work, a potential weakness appears. She suggests, as in Larsen-Freeman and Strom (1977), that the best discrimination measures were the average number of words written per T-unit and the total number of error-free T-units written per composition. T-units are defined here as the shortest possible units which are grammatically allowable to be punctuated as sentences. These units thus comprise a main clause and the related subordinate clauses, phrases, and words tied to it (Larsen-Freeman 1978).

The weakness in using the T-unit may be that it disregards the ability of the writer to effectively convey meaning in a concise form, instead rewarding the verbose writer as being more mature with regard to writing skill. Admittedly, a fine line exists between mastery of simple sentences and effective concise use of language, but this point remains valid when considering this measurement for evaluating proficiency. If a writing sample is collected with a predetermined length in number of words, one writer may produce fewer T-units with a greater length, while another may produce more T-units in the allotted space and more effectively convey meaning. Which student is then the more mature writer is difficult to determine. This supports the note made regarding Larsen-Freeman and Strom (1977) and their difficulty in rating one error over another.
Related Research

Fox and Maeda (1999) looked specifically at Japanese speakers and their production of phonemes in English. Initially, this article appeared to have potential in supporting research using a single native language group sample, which would match the intentions of this study. Upon reviewing it, however, an evaluation of the validity and credibility of conference papers compared with peer-reviewed journal articles led to some doubts about the content.

Fox and Maeda (1999) describe their study in great detail and refer to only a moderate amount of prior research. Their references cite only 11 entries, three of which belong to the same author. This narrow spectrum of resources could be indicative of a new area of study about which few authors have published, or could be a lack of depth in the research done for this paper. The title of this article is “Perception and Production of American English Tense and Lax Vowels by Japanese Speakers”. This title is misleading, as it focuses strictly on pronunciation of two vowels, and neither the word ‘tense’ nor ‘lax’ appear anywhere in the body of the text. Furthermore, the authors do not define a number of terms used in the text, which could lead to misinterpretation of the data by another reader. The lack of peer review probably contributes to these weaknesses in the text and it may only serve to provide ideas or other sources from it. These would, of course, have to be validated by other research.

Long, Inagaki, and Ortega (1998) describe a study of second language acquisition (SLA) error correction on Japanese and Spanish students studying English. Retrieval and careful review of the article revealed, however, that the participants were students of
Japanese and Spanish. While SLA may demonstrate some similarities across languages, this study appears to be less relevant to the target of this study into Korean students’ acquisitions of English morphemes. This exploration would have relevance in considering error correction and its impact on this study, but it would not be the central focus. It could further provide some comparative information about both Japanese and English language forms and what errors may occur in morpheme acquisition. Since all of the participants in the study were young adult learners of either Japanese or Spanish, though, its use may be limited because the current study addresses adult learners.

Possibly the most valuable element in the article (Long, Inagaki, and Ortega, 1998) are the endnotes that list comments made by anonymous reviewers. This critique and rebuttal by the authors allows the reader to better understand the researchers’ intentions. Endnote 3 included concerns about the number of test items being low and allowing for Type II errors. The researchers agreed and made recommendations for future studies to have more items, yet maintained that their goal of avoiding repetitiveness, boredom, and keeping the participants from learning from the test itself was achieved.

Toth’s study (2000) at the University of Pittsburgh, exploring the interaction of instruction and learner-internal factors in acquisition of L2 morphosyntax, is one of the more recent studies in this area. It included 121 participants, 91 of whom were university students learning Spanish. The control group consisted of 30 Spanish native-speakers. Looking at the ways in which L2 input, explicit grammar information, L1 transfer, and
Universal Grammar (UG)-derived knowledge affected performance of L2 learners on three different tasks, the study documents the results and interactions of these elements.

After what appears to be a thorough discussion of relevant prior research and current theories, Toth introduces three research questions. The phrasing of the first, which looks at students rejecting L1 morphology patterns in favor of L2 patterns, and the phrasing of the last question, which considers the factors causing overgeneralization errors, require a yes or no answer, with little room for degrees of success. The second question uses the adverb sufficiently with regard to the learner’s performance. This would open itself to a subjective judgment, but the author has included some conditions that shape the response to the question. Rather than create an unwieldy question, this use of conditional expectations clarifies the apparently subjective question well. The text then outlines the assessment of the results, which found that the learners did benefit from instruction. It includes both descriptions and samples of the materials used in the study, and numerous charts of the results. One of the greatest drawbacks to this article is the fact that it explores only one structure in learners of Spanish, not English. The results, expectations, and possibly the materials themselves, as a consequence, may not be transferable when studying English morpheme acquisition by Korean native speakers since their L1 learning and structures relative to English will be different than the relationship of Spanish to English.

Pienemann (2002) published a brief introductory article in a special issue of Second Language Research. The interface between SLA and language processing is the thread that binds all the articles. It was hoped that this article might present recent
findings related to morpheme acquisition, perhaps in how they are processed by the students, but unfortunately it did not. By nature, this article uses a great deal of specific, field-based terminology that is not explained or defined in the article itself. The terms used in the text have some universality in the field of SLA, but Pienemann (2002) was in fact focusing on a very particular aspect of language processing not directly related to the current study of Korean learners.

Pienemann (1992) reported on a project in computer-aided language analysis. COALA is a software application developed by the author in conjunction with others to analyze linguistic material using a computer to efficiently process research data. The article discusses issues in using computers to perform such analyses and illustrates some advantages and disadvantages.

Pienemann (1992) presents a functional description of COALA, including screenshots of the application interface as illustrations. They walk through the process of using the application with a specific example, up to the final report generator. A formula must be created against which the data is analyzed. This is stored within the system and can be reused for additional data samples. One possible analysis is morphological analysis. This can be used to sort through samples to locate a specific morphological structure. Most likely, this would be faster than manual evaluation and function similarly to the ‘find’ feature in many word processing applications.

The adequacy of the available analytical categories is discussed at the conclusion of Pienemann’s article, as well as a presentation of future extensions. One marked problem with the software is the fact that it is only supported by Macintosh computers.
On the one hand, this may no longer be an issue in light of advancements in computer technology, as the article is eleven years old, while on the other, it may be antiquated and useless as an application if it has not evolved with the technology. After consideration of the possible advantages and disadvantages of a computer-aided analysis, this study would not have sufficient data to warrant investment in such an application.

Burt and Dulay (1978) attempted to shape guidelines for assessing oral language proficiency. It is important to note here that these authors are focused on oral language, not on written language skills. They address a perceived need for such guidelines by acknowledging the large number of students in the United States who, at the time of publication, lived in households where English was not the first language. They begin with their definition of bilingual as someone living in such a household, where a first language other than English is spoken by one or more members (Burt and Dulay, 1978).

Exploring some legal elements to the issue of bilingualism, Burt and Dulay (1978) then define the terms language proficiency as control over the rules of a language, and language dominance as the proficiency of one language over another. They point out weaknesses of previous assessments in this field and of major assumptions upon which those assessments had been based. They note that language dominance does not always indicate dominance of every skill. One student may be dominant in speaking one language, while reading skills are dominant in another.

Continuing their presentation, Burt and Dulay (1978) highlight four aspects of language that have been most commonly assessed. Under the four, they point out some difficulties in accurately assessing the student’s ability in each. They provide some
discussion about oral language elicitation tasks and contemporary work in natural communication as opposed to linguistic manipulation tasks. Lastly, the authors differentiate between structured and non-structured communication. They provide an annotated checklist of six items that they feel are important to consider in oral language proficiency testing.

Burt and Dulay (1978) also point out that of the second language acquisition studies done, many have focused on grammatical structure. They suggest that a stable acquisition order of the language makes analysis of levels of language proficiency more meaningful. Information on common error types associated with the findings of these studies provides important data for assessing language development (Burt & Dulay 1978), which tends to support the construction of the testing instrument for the current study of Korean learners.

Long (1982) made comparisons of acquisition studies involving both children and adults. His findings supported his hypothesis that second language instruction does make a difference in acquisition. He found this for children and adults and for all levels of students. He continues by suggesting that instruction is beneficial, regardless of the student’s level, environment, and the type of test taken to measure acquisition. Long points out that the studies conducted in the 1970s were motivated by finding universals in sequence of morpheme acquisition and not the effect of instruction on that acquisition. His conclusion poses additional questions for further research. Does second language instruction make a difference? Does type of instruction or type of learner make a difference? Does type of instruction interact with type of learner? These questions, he
states, are fundamental to the profession of teaching English to speakers of other languages (TESOL) and to its students.

Zobl and Liceras (1994) also reviewed studies on functional categories and acquisition orders, and suggest that recent work on functional categories and the acquisition thereof by L1 and L2 learners has made it possible to return to morpheme order studies and to attempt the formulation of a unified explanation. They indicate in the same article that morpheme studies had been in a state of limbo since the late 1970s and were now open to further exploration. Zobl and Liceras (1994) propose that in L2 acquisition, inflectional morphemes do not share a role with lexical morphemes in the implementation of functional categories. These functional categories are defined in their text as free morphemes such as modals, auxiliaries, determiners, complementizers, and bound morphemes such as nominal and verbal affixes. Their proposal continues by suggesting that free morphemes rather than affixes form the first basis for functional categories in L2 and that affix movement affects the development of a syntactic function for the affixes.

The current study of Korean learners does explore some of the morphological structures introduced by Zobl and Liceras (1994), but not in terms of the functional categories they listed. Though Zobl and Liceras do not offer any explanation beyond “pending such a theoretically motivated explanation” (p. 161), the apparent two-decade gap in morpheme acquisition research between the studies in the 1970s by Larsen-Freeman and others and the material generated by Pienemann and others in the late 1990s has not been addressed by any other author included in the literature review.
METHOD

Participants

This study explored the acquisition of three English morphemes by eight native Korean speakers. The participants were drawn from a pool of enrolled students at Aspect International Language Academy’s Orlando campus. They consisted of four male and four female intermediate-level students as determined by their entrance placement exam scores. The students, ranging from 20-26 years of age, came from a Korean language background, and they represented the largest number of students enrolled at the time of the study. Eight students were considered in this study. They were purposively sampled, based on their native Korean language background, from the pool of students in a particular class. Their participation was entirely voluntary.

Materials

A testing instrument was developed to elicit uniform writing samples from the participants. They were confronted with a series of twelve black and white pictures (Blanton, 2001) for each of the four administrations of the instrument and were asked to write one sentence describing each picture (see Appendixes A, B, and C). The twelve pictures were clustered in groups of four pictures for each of the three target morpheme structures: indefinite articles with singular count nouns, progressive -ing, and the third person -s marker. The writing samples produced by the students were evaluated for content, focusing on their use of those three specific morpheme structures. The
instrument consisted of three versions, which were administered at two-week intervals in a continuous period of eight weeks. Validity and reliability of the instrument were successfully tested with a random group of native speakers to see if the directions produced the desired morpheme structures in native speakers’ interpretations of the pictures. Great care had been taken when formulating the directions for each cluster to avoid giving any examples of the desired structures. For the section focusing on indefinite articles with singular count nouns, the directions read, “Describe what you see in the pictures below.” These directions do not contain any indefinite articles, or any of the other two targeted structures. The directions for the progressive -ing structure asked the student to, “Talk about the activities in the pictures below.” Again, none of the targeted structures appear in the directions. For the final sections on use of the third person -s marker, the directions read, “Describe the daily activities in each picture below.” Likewise, the targeted morphemes were avoided.

While the directions do not employ any of the targeted morphemes, they do seek to elicit the desired morpheme structure. If asked to describe an animal, a simple answer might include a label identifying the type of animal, for example, “It is a cat”. By asking for a description of the picture in the indefinite article section of the testing instrument, the student has the freedom to choose anything in the picture and describe it, including by using a simple label.

To help ensure the use of the targeted morpheme, a prompt was given for the beginning of three of the four pictures in each section. The fourth picture was left blank to see if the student would create a free sentence containing the desired morpheme. The
indefinite article section gave a prompt for identification, such as “That is”, but also provided either a noun (man) or an adjective/noun combination (open book) in parentheses to help focus the student’s attention on one item in the picture. At least one of the prompts in parentheses required the use of an. The progressive -ing section used prompts, however not the same ones. These prompts related the picture to a ‘now’ context, thus ideally eliciting a present progressive verb tense. In the third-person -s marker section, the prompts were related to a present time situation, but a more habitual occurrence, which would generate a simple present tense verb. The prompts for this section also included a third person subject so the verb produced would agree with that subject and match the desired morpheme structure.

**Procedure**

The classroom where the instrument was administered had a predetermined pool of potential participants. Based on their voluntary participation, actual participation in the study was selected from the volunteers meeting the aforementioned participant criteria.

The instrument was administered a total of four times within an 8-week course. The students received version A in the first week, version B in the third week, version C of the instrument in the fifth week, and version A again at the end of the course, with version A thus serving as both the pretest and the posttest. Versions B and C functioned as interim measures of progress. The results from each administration were evaluated in the two weeks prior to the subsequent administration. The evaluation involved
identifying both correct and incorrect usage of three targeted morphemes in original sentences produced by the participants. The number of correct and incorrect productions of the target morphemes were collected and recorded for each student. Additionally, the types of errors made by the students for each morpheme structure and the number of each were recorded for each administration of the testing instrument.

The students took the testing instrument in the classroom during class time. The instrument was incorporated into the regularly scheduled tests for the course both to conceal its function and to make it more closely part of the normal classroom production. The students were permitted to sit in their desks with no assigned seating. They had as much time as they wanted to complete the instrument, but as it was only one part of a larger test, they were forced to budget their time for the later sections of the test. On the first pretest, the students used roughly 20 minutes of the available 90 minutes for the testing instrument. For the two interim tests and the posttest, the students took approximately 25 minutes to complete the testing instrument. The instrument comprised the first part of each of the four tests, and the students had to submit it before receiving the latter portion of the test. This served to prevent the students from using any other elements of the test as clues to the structures being tested.

During the first administration of the testing instrument, because of the fact that the students had never seen the instrument before, they were uncertain what the expectations were. They posed several questions about what details should be included in their responses to the pictures. The students were instructed to simply describe the pictures as directed by the instructions. In the later administrations, however, the
questions seemed to diminish, though when they did arise, the students were told to follow the directions given on the test. To prevent the students from learning from the test instrument itself, they were allowed to see their scores on the test afterward, but not permitted to retain the actual test papers.

The greatest weakness of this study lay in the potential for the participants to successfully respond to the task without employing any of the targeted morpheme structures. This would result in an absence of data, which could skew the results to the point that the study would be invalid. Test runs of the instrument with native speakers were successfully conducted to achieve a form of task instructions that elicited the desired morphological structures without leading the participant to the answers.

Ethical considerations included approval by the UCFIRB prior to implementation of the study. Additionally, approvals from the school administration and instructors, as well as voluntary participation by the students with full disclosure were obtained before proceeding. Bias on the part of the administrator of the instrument was eliminated by purposively selecting the participants who would provide writing samples and carefully constructing the instrument to avoid cultural or experiential bias. Language bias was not a factor in the instrument beyond the task directions because the actual task involved the participant’s interpretation of a picture without any captions. Scoring bias on the instrument was eliminated through strict adherence to grammar rules of standard American English as defined by Fuchs, Bonner, and Westheimer (2000) and Azar (1999).
RESULTS

Overall, the results of the tests for each of the student productions of the morphemes showed a tendency toward improvement. Each targeted morpheme yielded a different result on each single version of the instrument, and each administration of the instrument also yielded a different result for each morpheme. Of the three target morphemes, only the indefinite articles were explicitly taught in the course. Figure 1 shows the total number of correct responses for all the four administrations.

Morphemes

![Graph showing morpheme production on all tests]

Figure 1: Morpheme Production on All Tests

27
Indefinite Articles \textit{a} / \textit{an}

For the indefinite articles used with singular count nouns, the results most often had a correct answer for the use of \textit{a} and an error in the use of \textit{an}. During the pretest, the primary error was failure to use an article at all. Twelve correct responses were recorded from the participants, but 11 omission errors were also made. The second most common error on the pretest was not using the \textit{an} form in a situation which required it, with the students choosing \textit{a} instead, for example, “There is \textit{a} old man.” These were the only errors made on the pretest, with the exception of a badly constructed sentence, “That is a teaching man to write a English.”

In the second two-week period of the course, the students were introduced to count and noncount nouns, as well as articles and quantifiers. On Test B, the number of correct answers rose by 50\% to 18. The errors that occurred on this administration included eight uses of the definite article, two uses of a quantifier, two omissions of indefinite articles, and one incidence each of using a possessive pronoun and using \textit{a} when \textit{an} was required. Interestingly, the most common errors on the pretest became less frequent errors on the second test.

On the third test, the total number of correct answers declined, falling to 13. The number of article omissions rose as did the number of definite article and possessive pronoun uses. Bad sentence construction, as well as the use of \textit{a} in place of \textit{an} continued to be minor problems. One sentence was constructed using a noncount noun, which will never use an indefinite article.
The posttest results jumped again, this time to their highest level of 20 correct answers. The types of errors again shifted, this time using *a* in an obligatory context for *an* as the most frequent error. Definite articles, possessive pronouns, and quantifier *some* also were used. Only two article omissions occurred on the posttest.

Figure 2 details the various types of errors made and the number of correct responses for the indefinite article section of the study.

![Figure 2: Responses Produced in Situations Requiring Indefinite Articles](image-url)

Figure 2: Responses Produced in Situations Requiring Indefinite Articles
Progressive -ing

Use of the progressive -ing form overall showed the greatest improvement, steadily yielding higher correct answer scores on each subsequent test, as can be seen in Figure 1. The present progressive form was not explicitly taught during this eight-week course, but was addressed as a side note in the discussion of gerunds, just prior to the administration of Test C.

On the pretest, the students scored only 11 correct answers out of a possible 32. While these 11 correct responses are good, it must be noted here that one of the correct responses involved the use of a modal verb. Answers using modals and stative verbs were scored as correct responses on all of the four tests. Twelve errors of using simple present tense were recorded, as well as five uses of the base form of the verb, and four omissions of the be verb while employing the present participle.

The second administration of the instrument produced an increase in the correct responses to a total of 16. Here again, a student employed a modal verb for one picture description. The number of present tense uses dropped by 75% over the previous test, falling to three. Use of the base form increased to seven, and omission of the be verb while using the present participle remained constant. Only one error in subject/verb agreement for singular and plural subjects occurred.

The third administration of the instrument showed yet another increase in correct responses. This time, the students produced seventeen present progressive forms, four stative verb constructions, and one modal construction, totaling 22 correct responses. The omission of be and use of base form errors both declined while the use of present
tense rose by one over the previous administration to a total of four occurrences. A subject/verb agreement error appeared only once.

The posttest showed the highest number of correct answers, reaching 25. The use of stative verbs accounted for only 2 of the 25 correct responses. Errors were spread between all of the categories that appeared on the previous tests, but only omission of the be verb was higher than one occurrence, with a total of three.

The figure below shows the breakdown of progressive -ing errors that occurred.

**Progressive -ing**

![Bar chart showing the breakdown of progressive -ing errors](image)

Figure 3: Responses Produced in Situations Requiring the Progressive -ing
Third Person -s

The third-person -s marker would appear from the results to have been somewhat difficult for the students when compared with the other two morpheme structures. This morpheme was not explicitly taught during the course as a chapter, but was corrected in classwork and homework.

On the pretest, the students produced 13 correct responses. The most common error was a use of the base form of the verb. Four uses of the simple past tense and three of the simple future tense also occurred. The present progressive tense accounted for two of the errors, with a further three errors made by using only the present participle. This error is similar to errors made in the previous section in which the students omitted the be verb. Two bad sentence constructions were also present.

The second administration of the instrument yielded only a minor increase of one correct response to a total of 14. The base form continued to be the largest error group, constant at five. Present progressive and present participle errors accounted for a total of seven errors. Past tense accounted for only two, as did spelling. It should be noted here that the spelling error occurred in formation of the third person by omitting the ‘e’ in the verb ‘watches’. Bad sentence constructions and complete omission of the verb each had one occurrence. These errors remained overall similar to those made on the first administration.

During the third test, the errors shifted. The total number of correct responses dropped to 12. Past tense errors spiked to seven, and base form of the verb errors rose to six. These two errors accounted for a total larger than that of all the correct responses.
Additional errors of two or less appeared for the following categories: present progressive, future tense, present participle, and spelling. The spelling errors were omission of ‘e’ in ‘touches’ and ‘buies’ in place of ‘buys’.

The posttest showed a dramatic increase in the number of correct answers, jumping by 50% from 12 to 18. Present progressive increased to five errors. The students produced three errors each for use of the base form of the verb and use of future tense. Past tense dropped to two, and the students produced only one bad sentence.

Figure 4 charts the responses for the third person -s morpheme and the associated errors.

![Third Person -s](image)

Figure 4: Responses Produced in Situations Requiring Third Person -s
Statistical Evaluation

For each of the target morphemes, a statistical evaluation of the results was performed to look for statistical significance. In comparing the results of the students’ scores in number of correct answers on the pretest and the posttest using a paired-samples t-test, the indefinite article morpheme yielded a statistically significant increase in the mean student acquisition of the morpheme during the eight-week program. A result (from sample mean 1 = 1.50 to 2 = 2.50) was observed, the significance (one-tailed) being .043, p < .05.

Similarly, the results for the progressive -ing morpheme also yielded a statistically significant increase in the mean acquisition during the eight weeks. A result (from sample mean 1 = 1.38 to sample mean 2 = 3.13) was observed, the significance (one-tailed) being .011, p < .05.

The third person -s morpheme however, did not yield the same results. As a result of the 8-week intensive program, a statistically significant increase in the mean acquisition of the target morpheme (from sample mean 1 = 1.63 to sample mean 2 = 2.25) was not observed. The significance (one-tailed) was .090, p > .05.

When testing for correlation between the three morphemes, no significant results were found. A future study including definite articles with indefinite articles might be conducted to research a correlation between the two morpheme structures.
DISCUSSION AND ANALYSIS

To fully appreciate the results in context, a comparison to studies mentioned in the literature review should be made. Perkins and Larsen-Freeman (1975) reported that the Spanish-speaking students in their study on morphemes ultimately scored from highest to lowest: progressive -ing, indefinite articles, and lastly third person -s marker. Dulay and Burt (1973) and Bailey, Madden, and Krashen (1974) also found the same order for the morpheme scores. The students in the current study scored the same order of morphemes on the posttest. The actual test instruments were similar, but significant differences existed in both the type of production evaluated and the means of eliciting that production.

The Bilingual Syntax Measure, while collecting oral data, allows for student avoidance of the target morphemes. Additionally, the possibility exists for the student to gain some insight into the desired morpheme product. If the same instrument were used for writing samples, some students would certainly note the form of the question and respond based on what they saw formulated in the question, rather than on what they would naturally produce given simple directions. The instrument used in the current study collected written samples elicited by simple directions. The prompt provided a context, but did not give explicit clues as to the target morphemes.

Besides the format of the test instruments, the scoring of the tests also differed slightly. Perkins and Larsen Freeman (1975), as well as Dulay and Burt (1973) and Bailey, Madden, and Krashen (1974), scored their test items on a graduated scale, scoring
full points for a morpheme structure formed correctly, half points for a misformed structure, and no points for an erroneous morpheme form in a context where the target morpheme was required. In scoring the results for the current study, the items were marked incorrect if they failed to produce the desired morpheme structure correctly. To what degree can the use of a base form of the verb show an understanding of third person present tense -s usage? Should that be considered malformed or incorrect? What of the use of the present participle alone when present progressive is required? Is that malformed or incorrect? In order to eliminate this problem, it was decided that only correct responses would be scored with points.

When scoring the indefinite article section of the instruments, two interesting situations presented themselves. One issue that arose in analyzing the data was student production of a definite article in place of the indefinite article when describing the pictures. The definite article could be correct when viewing the sentence in isolation, but in reference to a picture or an object seen for the first time or a non-specific noun, a native speaker more often uses an indefinite article in conjunction with the noun. Fuchs, Bonner, and Westheimer (2000) indicate that a noun is often indefinite the first time it is mentioned. According to Azar (1999), the use of the indefinite article in the sentence, “Tom is smiling because Cindy is wearing a necklace that he gave her,” signals that it is not necessarily relevant which specific necklace is around her neck, just that she is wearing one necklace. It also does not presume that Tom has given her more than one necklace nor try to differentiate it from any other necklaces. However, the student production, “She is wearing the necklace,” does not give the reader any indication as to
the significance of the specific necklace. If this second example were preceded by the first example in conversation, they would form a logical sequence, since the reader would then understand the importance or reference made by the definite article in example two. This fact shaped the scoring to mark any definite article productions incorrect, as they did not follow the discourse pattern of a native speaker under those circumstances. Perkins and Larsen-Freeman (1975) also supported making this distinction between the indefinite and definite articles as a semantic distinction in specificity or non-specificity. The use of the quantifier one did not occur in the collected samples, but would have been correct.

The other issue that arose was the use of a possessive pronoun in place of an article to describe the picture. While it is true that a possessive pronoun may replace an article in a sentence, can a possessive relationship be determined from the first instance of viewing a picture? One example from the student productions can illustrate this point. The picture showed a framed portrait of four individuals, and a student produced the sentence, “That is my family picture.” Obviously, a cartoon image drawn by an artist unfamiliar to the student could not have produced an image that literally resembled the student’s family. To avoid the confusion of interpreting what the student might have meant, answers such as this were scored as incorrect. However, in a future study, it may be prudent to allow for some element of this interpretation, possibly through interviews with the students, to explore what thought processes the students employ in choosing the possessive pronoun over an article. This may lead to a deeper understanding of the schema used by the students to complete the task as well as aid the students themselves in making the correct choices.
An issue arising during the scoring of the progressive -ing was the use of want (or another stative verb) or a modal in now contexts in place of a present progressive form. It may be argued that the sentence, “At this moment, she wants to buy some bananas,” does not employ a progressive -ing form. Yet could such a form be produced with a verb like want? The sentence does express the desired temporal context of now and was written with a correct form of want. The same holds true for the use of modals. The sentence, “Right now, you have to jump,” also reflects the correct temporal context, and a native speaker would not say, “Right now, you are having to jump.” For this reason, these sentences employing stative verbs and modal verbs were counted as correct. If this study were conducted again in the future, a constructed questionnaire or interview after completion of the instrument might provide insight into why the student made that word choice. Asking the students involved in this study did not yield a helpful answer beyond, “I don’t know.”

Perkins and Larsen-Freeman (1975) stated in their summary that they had overestimated their participant’s ability to produce English sentences. In the case of the present study, the results were surprising because the anticipated responses to the test instrument were simple sentences: “This is an old man.” or “At this moment, she is choosing fruit.” or “After work, Maria buys flowers.” While some students did produce responses similar to these examples, other students also put creative adjective and adverb choices into their sentences. Some of these productions included: “That is an old man who is writing on the blackboard.” or “Now she is thinking about her unhealthy husband.” or “In his free time, he goes home or enjoys playing the violin. These results
may be isolated to this particular group of participants. It may be fruitful to conduct a larger study incorporating more participants and a wider selection of target morphemes to see if it would produce a similarly rich data sample.

**Implications**

The implications of these findings in a classroom setting are twofold. The first deals with the teaching methods and expectations of the teachers. The second focuses more on the performance and acquisition of the students.

Teachers provide instruction for their students within the confines of their classrooms, often in keeping with a curriculum. This curriculum may outline the material to be covered in the course. Long (1982) pointed out that regardless of student level, environment, or testing instrument, the students benefit from instruction. The teacher may expect the student to benefit, but how high should the teacher’s expectations be? In the current study, the students performed better on indefinite articles during the week in which they had instruction. The next administration of the instrument registered a decline in the number of correct responses almost to the number on the pretest. Did the students not acquire the material, or was the increase recorded for Test B a result of the heightened awareness of the morphological structure? Most likely the instruction did benefit the acquisition, but perhaps not to the degree a teacher might desire. If, however, the teacher were to reinforce the indefinite article structure in the subsequent weeks when it was not the focus of the lesson, the benefits of instruction might become more
apparent. A longitudinal study, as suggested by Long (1982), could benefit the field by examining this process over a longer period of time than the 8 weeks of the current study.

If the heightened awareness evident in the current study were supported in a longitudinal study, some changes to the teachers’ methods might be required. While the same material cannot be taught every day and new material must be introduced, one possible change might be to revisit some of the material from previous weeks in examples that present themselves as the course progresses. If a situation arose in which a student made an error by omitting the indefinite article, as in the sentence, “That is old computer,” the teacher, instead of simply providing the article, might ask the class questions to lead them to the answer. Calling their attention to the fact that the singular count noun *computer* was used in the sentence might trigger the recognition that an article is required. If a student provided the article *a* for the sentence, the teacher could highlight the adjective *old* in the sentence and ask the student if the article is appropriate for the adjective *old*. This process of revisiting the item may take only a few minutes of class time, but may provide benefit for all the students.

Based on the similarities in acquisition order findings between the studies in the 1970s and the current study, teachers may need to reconsider their expectations with regard to student errors in those morphemes. If the students do not immediately acquire the structure, they certainly cannot be expected consistently and accurately to produce the structure immediately in their own writing.

By the same token, students’ performance and acquisition may improve as the teaching methods are changed to fit the findings of these studies. Emphasis on
morphemes in the order the students acquire them may reduce the effort required from the students to acquire the language. Altered expectations from the teacher may reduce the pressure on students to avoid making mistakes and allow them the freedom to produce the morphemes, engaging their creative language acquisition processes as evidenced by Dulay and Burt’s (1973) work. This reduction in effort and pressure may help the students feel more positive about their development in the language.

All of these implications should be tested in future studies with students of many native language backgrounds to determine the effectiveness and feasibility of such a change. The studies could also determine what teaching approaches would provide the best results and benefit for both teachers and students.
CONCLUSION

Do second language learners of the same native language background exhibit the same or a similar growth in the acquisition of 3 morphemes, indefinite articles, progressive -ing, and third person -s, on writing samples collected at regular intervals during that 8-week intensive course?

The raw data shows fluctuation in the number of correct responses for both the indefinite articles and third person -s morphemes, while the progressive -ing morpheme shows constant increase in the number of correct responses. Neither of the latter two was taught explicitly in the classroom.

When viewing the indefinite article results, it appears that the students improve dramatically on Test B, yet slide back on Test C, before achieving their highest score on the posttest. This improvement on Test B does coincide with the indefinite articles being explicitly taught in the classroom immediately prior to the second administration of the testing instrument. Additionally, the errors made shift from omission of the article to a variety of other constructions, and the number of omissions never returns to its pretest level over the course of the 8 weeks. Thus, we can conclude that the instruction did have an impact by heightening the students’ awareness of the morpheme and the associated rules governing the use of it, but did not conclusively influence their acquisition of the morpheme.

With regard to the growth in morpheme acquisition, the significant results on the t-test scores for the comparison between pretest and posttest correct responses for
indefinite articles and progressive -ing indicate that the students share commonality in morpheme acquisition. The rise in overall mean scores supports the contention that the students performed better at the end of the 8 weeks than at the beginning.

As mentioned previously, future research using a larger population sample and focusing on a longer duration of the study might find a more precise measure of when and perhaps how acquisition occurs, as well as a clearer picture of the growth experienced by the native Korean students. As long as they continue to be an important element of the composition of foreign students studying English as a second language, it is essential to better understand them and their needs to provide the best learning experience possible.
APPENDIX A

TEST VERSION A (PRETEST AND POSTTEST)
NAME:_______________________________________

**Directions:** Describe what you see in the pictures below:

![Computer](computer)

There is ________________________________________________

![Man](man)

That is _____________________________________________.

![Open Book](open book)

This is _____________________________________________.

45
Directions: Talk about the activities in the pictures below.

At this moment, ____________________________

Now, ____________________________
Right now, _____________________________________________________

**Directions**: Describe the daily activities in each picture below.

During the day, Alberto _______________________________________________
After school, he ____________________________________________________

In the evening, Alberto ____________________________________________________

In his free time, he ____________________________________________________
Directions: Describe what you see in the pictures below:

That is ____________________________________________.

(necklace)

______________________________________________.

(door)

There is ____________________________________________.
This is ____________________________________________.

Directions: Talk about the activities in the pictures below.

At this moment, _____________________________________________________

Right now, _____________________________________________________
At this time, __________________________________________

Now, _________________________________________________

**Directions**: Describe the daily activities in each picture below

In the morning, Mr. Bertolli __________________________________________
At work, Mr. Bertolli

All day, Mr. Bertolli’s secretary

After work, Mr. Bertolli
APPENDIX C

TEST VERSION C
Directions: Describe what you see in the pictures below:

This is ____________________________________________

(Exciting game)

This is ____________________________________________

(Concert)

There is ____________________________________________

(Egg)
Directions: Talk about the activities in the pictures below.

That is ____________________________

Directions: Talk about the activities in the pictures below.

Now, ____________________________

At this moment, ____________________________
Right now, _____________________________________________________

Directions: Describe the daily activities in each picture below.

Each week, Maria ____________________________________________
During the day, Maria ____________________________________________

All day Saturday, Maria _________________________________________

After work, Maria _____________________________________________
APPENDIX D

UCF IRB HUMAN SUBJECTS APPROVAL
January 15, 2004

Timothy Schuwerk
3059 Whisper Lake Lane, Apt. G
Winter Park, FL 32792

Dear Mr. Schuwerk:

With reference to your protocol entitled, "Morpheme Acquisition in Second Language Learners," I am enclosing for your records the approved, executed document of the UCFIRB Form you had submitted to our office.

Please be advised that this approval is given for one year. Should there be any addenda or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur. Further, should there be a need to extend this protocol, a renewal form must be submitted for approval at least one month prior to the anniversary date of the most recent approval and is the responsibility of the investigator (UCF).

Should you have any questions, please do not hesitate to call me at 823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

Chris Grayson
Institutional Review Board (IRB)

Copies: Keith Folse
IRB File
REFERENCES


