An Error Analysis of the Use of Limiting, Specifying, Distinguishing, Quantifying, and Zero Determiners in the Writing of University Students of English as a Second Language

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By
Donna Kay Inness, B.A., M.A.

The Ohio State University
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Reading Committee:
Edward D. Allen
Victor M. Rentel
Gilbert A. Jarvis

Approved By
Gilbert A. Jarvis
College of Education
To Mom and Dad

and

To Nick
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VITA

September 9, 1946  . . . . . . . . . . Born – Tilden, Nebraska
1967.  . . . . . . . . . . . . . . . . . . . . . . . . B.A., Nebraska Wesleyan University, Lincoln, NE
1968-1970  . . . . . . . . . . . . . . . . . . . Peace Corps Volunteer, Seoul, South Korea
1971.  . . . . . . . . . . . . . . . . . . . . . . . . M.A., University of Arizona, Tucson, AZ
1972-1977  . . . . . . . . . . . . . . . . . . . Instructor of ESL, Montreal, Quebec, Canada
1977-1978  . . . . . . . . . . . . . . . . . . . Instructor, University of Arizona, Tucson, AZ
1978-1987  . . . . . . . . . . . . . . . . . . . Doctoral student, The Ohio State University, Columbus, OH

FIELDS OF STUDY

Major Field: Foreign Language Education. Professor Gilbert A. Jarvis and Professor Edward D. Allen.

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CHAPTER I
THE PROBLEM

Introduction

Words in English are divided into two types based on the source of their meaning: content words, which convey referential meaning, and structure words (also called function words), which convey grammatical meaning. Content words (nouns, verbs, adjectives, and adverbs) are open classes of words that carry the semantic meaning of a text by their reference to objects, actions, qualities, etc. in the real world, that is, to their referents. Structure words (prepositions, conjunctions, auxiliaries, and determiners) are closed classes of words that bind a text together by their reference to internal linguistic relationships and that serve as structural signals of meaning (Conlin & Herman, 1967). The words in each class of structure words are grouped together not by their form but by the purpose they serve in the discourse (Palek, 1972).

The difference in the source of their meaning determines the way content and structure words are defined. A content word is defined on an individual basis by designating or describing its referent; it is not defined by its
relationship to other words. A structure word, on the other hand, is defined by its relationship to other items in its system. It cannot be defined by describing a referent (Quirk, Greenbaum, Leech & Svavik, 1973). For example, Webster's New World Dictionary defines the noun roof by describing its referent: "the outside top covering of a building" (Guralink, 1980, p. 1235). In contrast, it defines one use of the definite article the by describing its role in the determiner system and its relationship to other determiners: "The (as opposed to a or an) is used to refer to a particular person, thing, or group" (Guralink, 1960, p. 1473).

The source of their meanings also determines how content words and structure words are taught to students of English as a second language (ESL). Content words are taught by association with their referents, that is, through context, visuals, definitions, paraphrasing, dramatization, demonstration, gestures, and translation (Chastain, 1976; Allen & Valette, 1977). But structure words cannot be taught in the same way because structure words have no referents. Students must be taught not what structure words refer to but how they function in sentences or texts and how they relate to the other words in their word class.

One class of structure words that is considered difficult for ESL students to learn is determiners (the, a, my, other, some, etc.). They, like other structure
words, are defined by their grammatical function, which is to relate noun phrases to their referents and to other parts of the text. They contribute to the formation and cohesion of text by distinguishing the referents of a discourse. Within a discourse the speaker/writer may mention a particular referent several times, and s/he may mention other similar referents. For communication to be successful the speaker must make it clear when the same or a different referent is being referred to (Palek, 1968). S/he does this with determiners. The following two sentences illustrate this point:

1.1 I see a man; Tom sees the man too.

1.2 I see a man; Tom sees a man too.

In sentence 1.1 Tom and I see the same man, but in sentence 1.2 we see two different men. It is through the use of determiners that this distinction is made. Thus, as Martin (1978) states, items like the "are absolutely crucial to the formation of text in English" (p. 4).

A speaker/writer uses the when s/he assumes that the listener/reader has some basis for identifying its referent. If this assumption is not met, the listener may be confused because s/he cannot bring to mind a specific entity to correspond to the speaker's definite reference (Maratsos, 1976). For this reason, an error in the use of the articles may result in inadequacy from the point of view of meaning while the sentence containing it remains grammatical (Palek,
1972). Alternatively, an error may result in both inade- 
quacy from the point of view of meaning and in ungrammati-
calness as the following examples illustrate.

1.3 The men played baseball in the park.
1.4 A men played baseball in the park.
Sentence 1.3 is grammatical and may be acceptable in one 
context but unacceptable in another, depending on the 
meaning the speaker intends to convey, while sentence 1.4 is 
ungrammatical and therefore unacceptable in any context. 
For this reason, some rules of determiner use may be stated 
in grammatical terms, but others must be stated in con-
textual terms.

Every noun phrase with a lexical noun as head requires 
a determiner. Therefore, determiners are among the most 
frequently used words in English. In fact, the was the most 
frequent word in four separate word lists based on both 
written and oral English, and a was the fifth most 
frequent word in the same four lists (Hofland and Johansson, 
1982).

Because determiners are used so frequently and because 
correctness is based on context as well as on grammatical-
ness, it is not surprising that errors in the use of 
determiners frequently occur in ESL student writing. They 
happen in the writing of students from all language back-
grounds and from all levels of instruction (McEldowney, 
1974). Whitman (1974) says of the determiner system:
The article in English has always been considered one of the most formidable problems to overcome in teaching English grammar to foreigners, and its misuse is one of the most evident grammatical signs that a person is not a native speaker of English. (p. 253)

In several studies of ESL students' use of English, errors in the use of articles were found to be among the most frequent errors made by ESL students. Ney (1962) found the largest single group of errors made by Japanese-speaking students to be errors in the use of determiners. In a study of oral and written texts by Arab-speaking university students, Scott and Tucker (1974) found the three most frequent categories of errors to be those in the use of finite verbs, prepositions, and articles. Similarly, Aguas (1964) found errors in the use of definite and indefinite articles to be the third most frequent category of errors for Tagalog-speaking students in grade 4 through second year college.

Although these studies document the fact that ESL students make frequent and persistent errors in the use of determiners, they do not provide pedagogically adequate information about these errors because they were not based on a thorough linguistic analysis of the determiner system. First, errors in the use of the definite article, the indefinite article, and zero article were analyzed without taking into account other determiners, which means that the analyses were incomplete. Second, errors were analyzed without taking into account correct uses so that absolute
frequencies of errors were provided but relative frequencies
were not. Because a frequency of 10 errors in 20 attempts
is very different from a frequency of 10 errors in 200
attempts, the use of absolute frequencies was also inade-
quate. Finally, errors were categorized according to
criteria that are irrelevant to the functions that deter-
miners perform. For example, in Ney's (1963) analysis of
composition errors made by Japanese speakers and in
Dusko's (1969) analysis of errors made by Czech post-
graduate students, errors were categorized according to the
syntactic environment in which they occurred, e.g., before a
proper adjective. Because this kind of syntactic environ-
ment is irrelevant to the use of determiners, these analyses
are misinterpretations of the facts and provide no basis for
teaching or learning determiner usage.

Determiners are structure words that are defined by
their grammatical role and their relationship to other
determiners. They form a linguistic system based on
specifiable rules. In order for an analysis to provide
information about what students do and do not know about the
use of determiners, and in order for it to provide informa-
tion that can be applied to the teaching and learning of
determiner usage, the analysis must be based on these
rules. Therefore, in this study determiners will be
analyzed and categorized according to the functions they
perform within the determiner system and then that categorization will be used to analyze ESL students' use of determiners in their writing. All determiners will be included in the study, and correct as well as incorrect use will be considered in order to provide a description of students' use of determiners that is as complete and accurate as possible.

The Determiner System

The English determiner system serves several functions at various levels of discourse. It designates noun classes: count, noncount, and proper; it distinguishes quantified and unquantified noun phrases; it distinguishes phoric (referring) and nonphoric (nonreferring) noun phrases; and in the case of the demonstratives it also signals proximity. It is through the determiner system that noun phrases are linked to referents in the real world and to other noun phrases in the text. It is also through the determiner system that two noun phrases are interpreted as referring to the same or a different entity. Unlike adjectives, determiners have no descriptive or qualifying function, they do not take derivational endings, and they do not have comparative or superlative forms. In short, determiners set limits to the use of nouns without significantly modifying them.
There are five categories of determiners used with noun phrases to carry out these various functions. (a) Quantifying determiners are used to express the amount of the referent. (b) Specifying determiners are used to designate a particular referent or to link a noun phrase with its antecedent. (c) Distinguishing determiners are used to express the referential relationships of (non)likeness and order. (d) Limiting determiners are used to narrow the extent of the determiner(s) they precede. (e) Zero determiner is used to represent the non-numerical singular or the unquantified plural.

Quantifying Determiners

In order to understand determiner usage with quantified noun phrases, it is first necessary to examine the traditional classifications of nouns. A lexical noun is a sign used to refer to an entity (person, place, object, etc.) as a thing. There are two classes of nouns in English: common and proper. Proper nouns are names of specific people, places, countries, days, holidays, magazines, etc. and are written with a capital letter in English. They differ from common nouns in that the referent of a proper noun is invariable while the referent of a common noun is variable. As an illustration, the personal name Carl Edward Petersen refers only to the person named, but the common noun, dog, may refer to any representative of canis
familiaris. Because of this difference in their exten-
sivity, common nouns are used with a greater variety of
determiners in a greater variety of circumstances.

Traditionally, a common noun is classified as either a
count noun, that is, a noun seen as an individual countable
entity, or as a noncount noun, that is, a noun seen as an
undifferentiated mass or continuum. Although it is true
that many nouns are used predominately as one or the other,
this is a distinction not of category but of usage. Any
noun can be used as either a count or a noncount noun
depending on the context in which it is used (Greene, 1957;
Hewson, 1972; Ware, 1975). For example, hamburger is used
as a noncount noun in 2.1, as a count noun in 2.2, and could
be either in 2.3:

2.1 Hamburger is on sale at Kroger's this week.
2.2 I ate a hamburger for lunch.
2.3 The hamburger is on the table.

Quantifying determiners designate the amount of the
noun phrase and mark the noun's occurrence as singular
count, plural count, or noncount. Definite quantifiers give
a precise amount and combine with specifying determiners
while indefinite quantifiers give only a general idea of
the amount and do not combine with specifying determiners.
The definite singular enumerative (one) and indefinite
singular enumeratives (a, each, every, either, and nei-
ther) mark singular count. Definite plural enumeratives
(cardinal numbers) and indefinite plural enumeratives (several, many, few, etc.) mark plural count. Definite amassives (loaf of, cup of, pound of, etc.) and indefinite amassives (much, a little, and less) mark noncount. General quantifiers, in contrast to the other groups, are appropriate with both singular and plural nouns and are all indefinite. This group includes some, plenty of, a lot of, lots of, and enough.

Although the indefinite article is often classified simply as a determiner along with the definite article, it has been argued by some linguists (Perlmutter, 1970; Warden, 1976) that it is a quantifying determiner. The reasons given for this classification are: (a) it is historically derived from the numeral one; (b) like the numeral one, it is restricted to occurrence with singular nouns used as count nouns (the definite article, on the other hand, occurs with a noun used as any noun class); and (c) like other indefinite determiners, it cannot co-occur with specifying determiners as the following ungrammatical sentences illustrate:

2.4 The each boy is going swimming.

2.5 The a boy is going swimming.
 Specifying Determiners

One of the functions of specifying determiners is to mark noun phrases as phoric. A noun phrase that needs information outside itself for its interpretation is phoric, while a noun phrase that is complete within itself is nonphoric (Halliday & Hasan, 1976; Rochester & Martin, 1977). The following examples illustrate these two types of noun phrase:

2.6 He was working there at that time.

2.7 John was working in Cleveland Saturday.

The phoric phrases he, there and that time in 2.6 seem incomplete in the absence of a context, but the nonphoric phrases John, Cleveland, and Saturday in 2.7 need no further context in order to be understood.

The use of a specifying determiner in a noun phrase signals either exophora (reference outside the text) or endophora (reference inside the text). Whether a given noun phrase is endophoric or exophoric is determined by the context in which it is used, not by the phrase itself (Halliday & Hasan, 1976). For example, the noun phrase that ball can be exophoric or endophoric depending on whether it is used to refer to an actual ball present in the situation or whether it is used to refer back to a previous noun phrase in the text.
The basis for exophoric reference is shared knowledge on the part of the speaker/writer and the listener/reader. In formal exophora, knowledge of the language and culture allow an adequate interpretation, but in situational exophora knowledge of the ongoing situation is also necessary. Formal exophora includes reference to a unique member of a class as in 2.8, reference to a representative of a class as in 2.9, and reference in which specific identification of the referent is irrelevant as in 2.10.

2.8  The sun is shining.
2.9  The snail is considered a delicacy in this region.
2.10  Mark was walking down the street.

Situational exophora includes reference to some aspect of the ongoing situation and reference to shared knowledge based on past experience.

2.11  Look at the dog!
2.12  Did the man come?

Sentence 2.11 would be used in a situation where both speaker and listener can see a dog. Sentence 2.12 would be used when the man has not been mentioned in the current conversation/text, but both the speaker and the listener can identify the reference.
The basis for endophoric reference is presupposition of some element in the text. Endophora is subclassified as cataphora when the presupposition is of something later in the text and anaphora when the presupposition is of something earlier in the text. The phrase:

2.13 the party in power

is an example of cataphoric presupposition with the definite article. The noun phrase **the party** is defined by the phrase **in power** (Halliday & Hasan, 1976).

Anaphora is achieved through reiteration or association. In the case of reiterative anaphora both the presupposing noun phrase and the antecedent refer to the same referent as in

2.14 I bought a **dog** and a cat yesterday. My children prefer **the dog**.

In the case of associative anaphora, on the other hand, the presupposing noun phrase and the antecedent refer to different referents, but they bear some semantic relationship such as part/whole or superordinate/subordinate (De Beaugrande, 1980; Hasan, 1978b; Hawkins, 1978; Janssen, 1980; Kaluza, 1981; Maratsos, 1976; Martin, 1978) as in

2.15 I took my **car** to the garage to have **the transmission** fixed.
The definite article is used with the word transmission because it refers to the transmission of the car just mentioned. Both of these types of anaphora serve the function of tying parts of a discourse together.

The various types of presupposition are not mutually exclusive. A particular occurrence of the definite article, for example, can have two or more functions at the same time. In

2.16 I visited a couple who had four children. The oldest boy is in high school.

the definite article is both anaphoric and cataphoric; anaphoric to the word children and cataphoric because oldest defines boy (Halliday & Hasan, 1976).

Specifying determiners include personals (my, your, his, her, its, our, their, whose, noun + 's) and nominatives (the, this, that, these, those, and which). Personal determiners, also called possessive adjectives, presuppose an antecedent that designates the possessor of the referent while nominative determiners presuppose an antecedent that designates the referent itself.

Personal determiners, like all personals, are divided between first and second person on the one hand and third person on the other. First and second person are based on their speech roles; first person can be identified as the speaker and second as the addressee without further identification of the actual person involved. They are therefore
classified as exophoric, unless they occur in quoted speech, in which case they are anaphoric. A third person form, on the other hand, is typically anaphoric in written text and either anaphoric or exophoric in oral text. It appears incomplete in the absence of a referent (Halliday & Hasan, 1976). In the examples

2.17 My father lives in Detroit.
2.18 Jane took her mother to lunch.

my is an exophoric referring to the speaker/writer, while her refers anaphorically to Jane.

The genitive form of a noun (noun + 's) is a nonphoric personal determiner; it does not presuppose an antecedent possessor but rather names the possessor itself. Because it is used with another noun, its use can be considered as a noun phrase within a noun phrase. In fact, the genitive noun will also have a determiner. For example,

2.19 John's wife
2.20 her brother's wife

In both 2.19 and 2.20, the noun wife is determined by a genitive noun. In 2.19 the proper noun John is determined by zero, while in 2.20 the common noun brother is determined by her.
Finally, the personal determiner, whose, can be either nonphoric or anaphoric depending on the situation. When it is used as a relative adjective in an adjective clause as in 2.21, whose is anaphoric. When it is used in an interrogative as in 2.22, it is nonphoric.

2.21 That is the man whose car was stolen.

2.22 Whose car was stolen?

Nominative determiners consist of the definite article, the demonstratives (this, that, these, and those) and the word which. The definite article differs from the demonstratives in explicitness; it is an unmarked or nonselective referential determiner (Halliday & Hasan, 1976). It does not identify the location or number of the antecedent; it simply reveals that there is an antecedent. The demonstratives, however, mark both location and number. They mark the referent as near/approaching (this, these) or as far/withdrawing (that, those). They also mark the referent as being singular (this, that) or plural (these, those) (Lyons, 1980). Which, like whose is anaphoric when used as a relative adjective and nonphoric when used as an interrogative:

2.23 He is very old, which fact is important.

2.24 Which book did you read?
The definite article and the demonstratives both mark a noun phrase as phoric whether it is exophoric or endophoric. Only the definite article, however, can be used for associative anaphora (Halliday & Hasan, 1976).

2.25 I can't open the door.
2.26 The lock is broken.
2.27 That lock is broken.
Sentence 2.25 can be followed by 2.26 but not by 2.27.

**Distinguishing Determiners**

The function of distinguishing determiners, which include comparatives and ordinals, is to relate referents to each other. The comparatives (*same, only, other, and another*) are used to express likeness or nonlikeness of referents in a general sense without indicating any particular property (Halliday & Hasan, 1976). The ordinals (*first, second, third, th, next, last, and final*) are used to relate referents by putting them in sequence. Both can be used in associative anaphora or cataphora. For example, in

2.28 One child was laughing; the other child was crying.

2.29 The third caller to correctly identify this song will win two tickets to the concert.
other refers anaphorically to the word child in the previous clause, while third refers cataphorically to the phrase to correctly identify this song.

**Limiting Determiners**

Limiting determiners (one of, some of, all of, half of, etc.), called predeterminers by some linguists, are quantifiers that limit the amount of the referent by partitioning out a subset of it. They often consist of a quantifier + of. Like quantifying determiners, there are definite (cardinal numbers) and indefinite (some of, all of, etc.) limiting determiners. A limiting determiner must be used with at least one other determiner in the noun phrase and always occurs first in the noun phrase. Because it partitions out a subset, a limiting determiner cannot be larger than any quantifying determiner it occurs with or larger than unity if it occurs with a singular noun as in the examples:

2.30 Two of the five boys are playing chess.
2.31 Papers covered half of the table.

**Zero Determiner**

When a noun is "bare," that is, without an overt determiner, it has zero determiner, whose function is to signal that the noun is being used to refer to an undifferentiated mass or totality. Zero determiner regularly occurs with
both proper and common nouns. A common noun in singular form with zero determiner represents an abstraction (beauty), a formless, non-numerical entity (hamburger), or an institution (to school). A common noun in plural form with zero determiner represents either a totality or an indefinite group (Bolinger, 1975; Hewson, 1972; Kaluza, 1981).

Determiners with Proper Nouns

Proper nouns are names assigned to concepts, individuals, or things. Their reference is invariable so that the determiner usage appropriate to common nouns is not normally appropriate to them. There are two types of proper noun: those, like Marie, Columbus, and Christmas, that regularly occur with zero determiner and those, like the United States, the Pacific (Ocean), and the Mississippi (River), that regularly occur with the definite article. When it is used with proper nouns, the definite article is part of the name of the entity and marks institutional exophora (Swiggers, 1980).

When proper nouns that normally occur with zero determiner are used with other determiners, they lose the sense of being proper nouns, taking on the properties of common nouns, including the addition of the plural morpheme. For
example, cataphoric the can be used with a proper noun to
discuss a particular aspect of an entity as in 2.32 or to
distinguish two entities with the same name as in 2.33.

2.32 He told us about the London of his youth.

2.33 The Mary Smith in the third grade is my cousin.
The indefinite article or other quantifier can also be used
with proper nouns when a certain aspect of the referent is
being discussed as in 2.34, when another entity is being
described as being like the one designated by that name as
in 2.35, or when there are two or more entities with the
same name as in 2.36.

2.34 This was not a London I could remember.

2.35 Bob will never be a Shakespeare.

2.36 I know two John Smiths. One is a plumber; the
other is an electrician.

Definition of Terms

Amassive: a quantifying determiner that specifies the
amount of a singular noun used as a noncount. These
words answer the question "how much." (Examples: much,
little, phrasal amassives)

Anaphora: presupposition of a referent in a preceding part
of the same text. An anaphoric noun phrase may be
reiterative or associative.
Antecedent: the word or phrase appearing elsewhere in the text that supplies the identity for a presupposing noun phrase.

Associative anaphora: anaphora in which the presupposing noun phrase bears a part/whole or superordinate/subordinate relationship to its antecedent.

Cataphora: presupposition in which the presupposing noun phrase is followed by a phrase or clause that defines the referent of the noun phrase. (Example: "I spilled coffee on the new suit I bought last week.")

Comparative: a distinguishing determiner that compares a presupposing noun phrase with an antecedent in general terms of likeness or non-likeness. (Examples: other, same, equal, additional)

Definite article: the word the. This word is a nominative specifying determiner.

Definite limiting determiner: a limiting determiner that designates a specific amount. (Examples: one of, two of, etc.)

Definite quantifying determiner: a quantifying determiner that designates a specific amount. (Examples: one, loaf of and cardinal numbers.)

Demonstrative: one of the following words: this, that, these, and those. These words are nominative specifying determiners.
Distinguishing determiner: a determiner used to express the referential relationships of (non)likeness or order.

These words include comparatives and ordinals.

Endophora: presupposition in which the information needed for interpretation is in another part of the text. It includes anaphora and cataphora.

Enumerative: a quantifying determiner that designates the number of a noun used as a count noun. These words answer the question "how many." (Examples: many, several, (a) few, and cardinal numbers)

Exophora: presupposition in which the information needed for interpretation is outside the text.

Formal Exophora: exophora in which the referent is a unique member or a representative of a class. (Examples: the sun, The horse is a domestic animal.)

General quantifier: a quantifier that can occur with a noun used as either a count or a noncount noun. (Examples: a lot of, lots of, plenty of, some, enough.

Indefinite article: the word a. The indefinite article is classified as a singular indefinite enumerative.

Indefinite limiting determiner: a limiting determiner that designates a general amount of the noun phrase. (Examples: some of, many of, less of)

Indefinite quantifying determiner: a quantifying determiner that designates a general amount of the noun phrase. (Examples: a, each, many, much, some)
Limiting determiner: a quantifying word that precedes other determiners and partitions out a subset of a referent. These words are classified as definite or indefinite. 
(Examples: one of, some of, all of)

Nominative determiner: a specifying determiner that presupposes a referent by answering the question "which X." The definite article, demonstratives, and the word which are nominative determiners.

Noun phrase: a noun and any determiner, quantifier, or modifier that occurs with it. (Examples: John, the new toys, three boys, sugar)

Ordinal: a word used to indicate order or succession in a series. These words are distinguishing determiners. 
(Examples: first, second, third, next, last, final)

Personal determiner: a specifying determiner that presupposes the possessor of the noun's referent. These words include the possessive form of the personal pronouns and the genitive form of a noun. (Examples: my, your, her, our, John's, whose)

Plural noun: a noun in the plural form (noun + s).

Presupposition: the dependence of a noun phrase on information outside the noun phrase itself for its interpretation. (For example, in the sentences "I ran into Sue this morning. She was going to class," the word she depends on the word Sue for its interpretation.)
Proper noun: a noun used to name a specific person, place, country, month, day, holiday, magazine, etc. These nouns require a capital letter in written English. (Examples: John, New York, China, May, Monday, Christmas, Newsweek)

Quantifying determiner: a word used to specify the number or amount of a noun. These words include enumeratives, amassives, and general quantifiers each of which can be definite or indefinite.

Referent: the object, concept, event, etc. in the real world that is referred to by a noun.

Reiterative anaphora: anaphora in which the presupposing noun phrase refers to the same referent as the antecedent.

Singular enumerative: an enumerative that occurs with a singular noun used as a count noun. (Examples: a, one, each, every, either, neither, another)

Specifying determiner: a determiner used to designate a particular referent or to link a noun phrase with its antecedent. These words include nominatives and personals.

Zero determiner: the absence of a specifying, distinguishing, quantifying or limiting determiner. (Examples: Tom, boys, water)
Purpose of the Study

The purpose of this study was to analyze the use of the English determiner system in the written work of foreign university students in the United States in order to determine the frequency of use of each of the determiners, to determine the relative frequency of errors made in each category, and to identify the kinds of errors made in each category. More specifically the study will address the following research questions:

1. In the written English of foreign university students what is the frequency of use of the determiners in each of the categories of the determiner system?

2. In the written English of foreign university students what is the relative frequency of errors in each of the categories of the determiner system?.

3. In the written English of foreign university students what is the relative frequency of errors in which the incorrect determiner was chosen from the same category as the correct determiner and those in which the incorrect determiner was chosen from a different category?
Assumption

The data for this study will be obtained from in-class compositions written as part of students' regular classwork. It is assumed that this sample of their writing will be an adequate representation of the students' ability to use the determiner system in English.

Limitations

This study is limited to an analysis of students' performance in one specific situation. Therefore, no inferences will be made about their ability to use structures that they did not include in this sample of their writing.

This study will be limited to a classification of the students' errors in the determiner system. No inferences will be drawn to ascribe either an interlingual (between languages) or an intralingual (within a language) source to the errors.

This study is limited to an analysis of students' use of determiners in their writing. No inferences will be drawn about their use of determiners in speech.
CHAPTER II
REVIEW OF THE LITERATURE

Researchers have analyzed texts of both first and second language learners for various purposes: to determine the sequence in which learners acquire various morphemes and syntactic structures of the language, to determine whether errors are due to interference from the learner's native language or whether they are due to difficulties in the target language itself, to investigate the learners' use of cohesive devices, and to simply categorize and quantify errors. The studies reported in this chapter are organized according to their stated purposes. Grammatical categories other than the determiners were included in several of the studies, but only the portions of the studies dealing with determiners are reported in detail here.

Studies of Interlingual and Intralingual Errors

Linguists of the 1950s and 1960s considered all errors made by a second language learner to be due to native language interference. According to their theory, the learner attempted to use his/her native language rules in
the target language, and errors occurred where these rules differed from those of the target language. A contrastive analysis of the two languages identified areas of difference, which were predicted to cause native language interference. Because these predictions are not always accurate, and because students with different native languages often make the same errors, some linguists now believe that errors may be intralingual (caused by difficulties in the target language itself) or developmental (caused by learner strategies) as well as interlingual (caused by native language interference). Intralingual errors include overgeneralization, incomplete application of rules, and failure to learn conditions for rule application. Developmental errors "...show that the learner--oftentimes completely independent of his native language--is making false hypotheses about the target language based on limited exposure to it" (Schachter & Celce-Murcia, 1977, p. 443). The four studies reviewed in this section examined the written English of foreign students to determine which errors were interlingual and which were intralingual.

Ney (1963) analyzed composition errors made by Japanese students of English as a second language. The subjects were 182 students from the English Language Institute (ELI) and Tsuda College in Tokyo. The ELI students had a wide range of educational background and English ability while the college group was more homogeneous. The ELI compositions
were written in class while the college themes were written outside of class. The study dealt with errors in morphology and syntax, such as plural, third person singular, verbals, prepositions, and the structure of phrases and clauses. The largest single group of errors, accounting for almost one third of the total number of errors treated, was that of the articles, the, a and zero.

Article errors were classified in three ways. First, the errors were classified according to which incorrect article was substituted for which correct article. Then, they were classified according to the category of noun with which they occurred: "count," "mass," "non-restrictive," "proper," and "plural." Finally, the errors were classified according to the syntactic environment in which the nouns occurred, both the kind of word that preceded (preposition, verb) and the kind of word that followed (proper adjective, superlative adjective, of, other prepositions) the determiner or noun phrase. Ney found that the most frequent error was the use of zero for the followed by zero for a/an. He concluded that the high frequency of these errors was due to the fact that the definite and indefinite articles do not exist in Japanese. He suggested that errors in which an article was used where none was required were due to over-correction.
The classification of errors according to the syntactic environment in which they occur does not provide an explanation of the errors because the syntactic environment does not constrain the choice of determiner. For example, in the environment "I drive ___ Japanese car" both a and the are grammatically correct. Furthermore, a particular occurrence involves more than one category of syntactic environment. In this example, the article both follows a verb and precedes a proper adjective.

Ney's analysis consisted of categorizing and counting errors, which were reported as a percentage of the total number of errors made. The cases in which the articles were used correctly were not taken into consideration, and no statistical comparison of the two groups was made.

In a similar study, Aguas (1964) analyzed errors in written compositions by Tagalog speakers. The compositions, with topics chosen by the students, were obtained from 300 students in elementary school, high school, and college. The first 300 (college), 250 (high school) or 200 (elementary school) words of each composition were analyzed. The sentences containing errors were written onto 4x6 cards and submitted to ten native speakers of English, who were instructed to indicate a correction above any errors they found in each sentence. According to Aguas' analysis, the three most common errors in the compositions were those having to do with verbs, prepositions, and determiners.
Errors in article usage were classified as: (a) omission, commission, or wrong substitution, (b) generic and other usage, and (c) count, mass, and proper nouns. The most frequent problems with a were omission before singular count nouns, commission before plural count nouns, and commission before mass nouns. Errors in determiners persisted through the college level, but the nature of the errors changed. At the lower levels the difficulty with determiners was their use with count nouns, but at the higher levels the difficulty was their use with mass nouns. Aguas concluded that article errors were caused by native language interference.

There were three procedural problems with this study. First, the analysis of isolated sentences may have resulted in some cases in which errors were not detected because an incorrect choice of determiner can be grammatically correct though it is unacceptable in the context of previous sentences. Second, correct occurrences of each determiner were not considered. Third, there were no statistical tests performed to compare the three levels; errors were simply counted and totalled for each school.

Arabski (1968) investigated errors in the university entrance examination papers of Polish high school graduates with at least four years of English instruction. The errors were classified as external to English (interlingual) or internal (intralingual). External errors were subclassified
as either active (negative transfer) or passive. Information on the number of subjects, the type of papers, the length of the papers, etc. was not reported. There was no quantification of the errors; they were simply categorized and examples were given. Arabski placed the following types of errors in the external active category: vocabulary, prepositions, and singular and plural forms. She placed verb tenses and articles in the external passive category. According to Arabski, the most common article errors were: a for zero, zero for a, a for the, the with proper names, and zero for the.

Duskova (1969) analyzed papers written by 50 post-graduate Czech students to determine whether errors in performance and errors in competence could be distinguished, and whether errors could be categorized as native language interference or target language interference. The subjects were asked to write a paper describing their last trip to a foreign country and to write a conclusion to a scientific article. Errors were identified and classified according to their grammatical category. The major classifications of errors were morphology, modals, tenses, articles, word order, prepositions and lexis. The errors were then counted and described with no statistical tests performed. No attempt was made to take into account correct as well as incorrect occurrences.
A total of 260 article errors were identified and classified according to the syntactic environment in which they occurred. They included 133 omissions of the, 40 omissions of a, 35 incorrect uses of the with plural nouns, 15 uses of the for a, 5 uses of a with an adjective and 32 "nonce" cases.

Duskova concluded that errors in the use of articles were due to both native language interference (the category is absent in Czech) and the difficulty of the article system itself. He stated, "...interference from the other terms of the article system and their functions begins to operate as an additional factor, which can be shown by the variety of the errors made" (p. 18). Duskova's use of syntactic environments to classify errors in the use of articles, like Ney's, resulted in inappropriate classifications.

**Acquisition Studies**

Recently researchers have been interested in establishing the order in which both first and second language learners acquire various features of English. Researchers in second language learning have compared acquisition orders of native speakers with those of second language learners in order to determine similarities and differences between the two groups. The first two studies reviewed in this section
dealt with the acquisition of the articles by native English speakers while the other studies dealt with the acquisition of various morphemes and structures by ESL learners.

Because native speakers master the use of the definite and indefinite articles by the age of five or six, research on the acquisition of the articles has been limited to the study of their oral use by young children. In order to restrict the research to the definite and indefinite articles, only singular noun phrases were studied because the indefinite article is used exclusively with singular noun phrases.

Maratsos (1976) and Warden (1976) each investigated the use of the articles by three- and four-year-old children. Maratsos' set of experiments included comprehension tests, stories, imitations with expansions, and games. He found that both the three-and the four-year-old children used the articles correctly when the distinction was one of specific versus non-specific. When the object in question was specific to the child (speaker) but not to the listener, however, the three-year-old children substituted the definite article for the indefinite article. Maratsos concluded that the younger children understood and could apply the basic rule for article usage, but their usage was egocentric in that they seemed to assume that what was specific for them would also be specific for their listener.
Warden (1976) conducted two similar sets of experiments with four-year-old children and adults. His tasks included naming an object, describing ongoing action, describing a drawing, and describing the action in a series of cartoons. In the final task, the adults used the definite and indefinite articles appropriately every time, but the children used inappropriate definite articles for first mention. Warden concluded that young children master the nominative use of the indefinite article before its use in identifying expressions so that they fail to recognize the need for an indefinite article when introducing a referent into a discourse.

Warden found that the earlier tasks in which the subjects were given a context and asked to answer a question about it gave more ambiguous results than the later experiments in which they were asked to describe the cartoons. He ascribed this difference to the fact that the subjects were allowed to provide their own verbal context in the later experiments.

To test the hypothesis that there is a general sequence of acquisition of morphemes for second language learners from different native language backgrounds, Dulay and Burt (1974) analyzed errors made by 55 Chinese- and 60 Spanish-speaking six-, seven-, and eight-year-old children learning English in the United States. Each child was shown a set of nine cartoon pictures and asked 39 questions. Their
responses were taped and later transcribed for analysis. Occasions requiring the obligatory use of 11 categories of functors (structure words) were scored 0 for no functor supplied, 1 for a misformed functor, or 2 for a correct functor. Among the morphemes studied were pronouns, plural, past tense, possessives, and the article.

The functors were ranked using three different methods. In the group score method, one composite score was computed for each functor for each group. In the group means method, an individual score was obtained for each child who had at least three obligatory occasions for each functor, and the group mean was used. In the Syntax Acquisition Index (SAI) method, a score for each utterance was calculated based on points for the grammatical version of the utterance, and the lowest SAI range at which at least one child used a particular functor correctly in at least 90 percent of its obligatory environments was determined. A Spearman rank order correlation was used to compare the ranks obtained by the three methods. The correlations ranged from +.89 comparing the group score method and the SAI to +.98 comparing the group score method and the group means method. The four highest ranking functors for all three methods were pronoun case, articles, -ING, and copula.
Dulay and Burt did not explain why acquisition was set at 90 percent rather than some other percentage. In the case of the articles, the definite and indefinite articles were classified together as one item, and zero article was not considered at all. Because Dulay and Burt treated the definite and indefinite articles as variants of a single morpheme, which they are not, their conclusions are at best misleading.

Scott and Tucker (1974) analyzed the texts of 22 Arabic-speaking students from the American University in Beirut in order to determine the sequence of acquisition of various morphemes. Both oral and written texts were analyzed at the beginning and at the end of a twelve-week semester. The subjects were asked to describe three pictures for the written text and to describe a short picture story booklet for the oral text. Correct occurrences of the morphemes as well as errors were counted in order to determine the relative frequency of errors. Errors were subclassified as omissions (the morpheme was omitted in an obligatory context), substitutions (the wrong morpheme was used), or redundancies (the morpheme was used in an inappropriate context). Among the morphemes and structures studied were verbs, prepositions, articles, relative clauses, word order, and pronouns.
The three categories with the most frequent errors were finite verbs, prepositions and articles. Omission of the indefinite article accounted for 30 percent of the article errors. Other frequent article errors were the omission of the definite article and its redundant use. Figured as a percentage of the total usage of articles, the students made errors at the rate of 8.6 percent on written test 1, 8.1 percent on oral test 1, 6.3 percent on written test 2, and 5.0 percent on oral test 2. Scott concluded that although students had mastered English word order and were in the process of acquiring other structures (verb tense, relative clauses, and prepositions), they were making little progress in the acquisition of the articles.

Andersen (1977) analyzed errors in papers written by 89 Puerto Rican first-year university students who had studied English for 12 years. The data was obtained from six semi-free compositions written on six different topics. Errors in verbs, morphemes and the articles were categorized and analyzed. The articles were categorized as a, the, zero₁ (zero in English, the in Spanish), and zero₂ (zero in both English and Spanish). The analysis consisted of group means, the group range, a test for individual fit, and a graphic display of individual performance. In the case of the articles, however, some of this information was omitted from the report. The group means for the definite and indefinite articles were reported (96 and 84
respectively), but not those for zero determiner. Andersen stated that the use of zero₁ varied from 0 percent to 92 percent correct. The group range and the test for individual fit were not reported. Andersen found that the students made more errors with a and zero₁ than they did with the or zero₂. He concluded that the errors were due to native language interference because the two categories with the largest number of errors were the two categories differing the most in Spanish and English.

Studies of Cohesion

There are various means by which a speaker.writer makes cohesive ties, that is, combines sentences and parts of sentences to form a text. These include substitution, ellipsis, lexical cohesion, conjunction, and anaphoric reference. Studies of cohesion investigate all of these cohesion devices. Only anaphoric reference makes use of determiners, and it includes the use of adjectives and adverbs of comparison as well as personal and demonstrative reference. Studies of cohesion do not include quantifying determiners, zero determiner, exophoric reference, or cataphoric reference because they are not cohesive. Only those aspects of cohesion studies that relate to the use of determiners will be reported here.
Three studies of cohesion, two with native speakers, the other with ESL learners, included the definite article as one aspect of cohesive reference. Crowhurst (1981) studied the use of cohesion by native speakers of English in grades 6, 10, and 12. There were 35 randomly selected argumentative prose compositions at each grade level. The purpose of the study was to determine the types of cohesive ties used, the relative frequency of each type at each grade level, and whether there were differences between grade levels. All five types of cohesive ties, including the three categories of anaphoric reference, were studied.

Each composition was divided into T-units (minimum terminable unit), and only ties across T-units were recorded. The means and standard deviations of ties per T-unit were calculated for each category and subjected to a one-way analysis of variance. The number of students at each grade level using each kind of tie was subjected to a chi square analysis with a .05 significance level. There were no significant differences in the number of students using each category of tie at the three grade levels. More than 90 percent of the students at each grade level used the category of demonstratives and the definite article. The mean per T-unit for grade 6 was .40, for grade 10 it was .41, and for grade 12 it was .50. Crowhurst concluded that these reference devices were well established by grade 6.
King and Rentel (1981) investigated the use of the following cohesive devices by students in kindergarten through grade two: restricted exophoric reference, anaphoric reference, ellipsis, conjunction, and lexical cohesion. The independent variables were school (urban, suburban), sex (male, female), dialect (black-vernacular, non-vernacular), and socio-economic status. Three separate MANOVAs were performed in order to explore (a) differences between schools, (b) differences between dialects within a single school, and (c) differences between sexes over observations.

Over the 16-month period of the study, children from both schools increased their use of lexical cohesion. At the same time, the children decreased their use of restricted exophoric reference and expanded their repertoire of conjunctions with an increase in precision in their use of conjunctions. There were significant differences in the use of reference by the nonvernacular children and vernacular-speaking children. For the nonvernacular children, overall, 46 percent of their cohesive devices were reference ties. For the vernacular-speaking children, on the other hand, reference ties were 24 percent of their cohesive devices. The two groups also differed in their use of ellipsis, with ellipsis constituting four percent of the nonvernacular children's devices, and being used very sparingly or not at all by vernacular children.
Anderson (1980) investigated the usefulness of cohesion analysis as an index of proficiency in written and oral narrative compositions of adult ESL learners. All five forms of cohesion were included in the investigation. Each composition was analyzed by holistic evaluation, by cohesion form and frequency count, and by errors in the use of cohesive ties. The cohesion index overall was not statistically correlated with either holistic evaluations of compositions or with students' TOEFL scores. Frequency of reference cohesion in written language, however, was significantly related to both the holistic evaluations (negative) and the TOEFL scores (positive). There were no differences in the frequency of use of reference items between written and oral compositions (an average of 40.73 for oral reference and an average of 31.82 for written reference). There were, however, more exophoric reference items in the oral than in the written compositions.

Several pieces of information were omitted from this report. For example, the subjects' ages, native language(s), educational level, and years of English study were not provided. Anderson stated that the most used form of reference was pronominal, followed by the demonstratives, then comparison, but she did not give the frequency count of use or of errors in these categories. She also stated that nonparametric statistics for small sample sizes were used, but she did not say which statistics were used or report the
results of the analysis. Although she stated that an error analysis of cohesive elements was included in the study, she did not report any results from the error analysis except to say that on the average, for oral composition 46.18 out of 55.27 attempted cohesion devices were correct, and for written composition 37.82 out of 42.96 were correct. Because of the scarcity of procedural information in this report, interpretation of the research would be of little or no value.

**Studies of Determiner Errors**

Two error analyses of the use of articles in the writing of ESL students were conducted for the purpose of identifying problems in the use of determiners. The primary classification of errors was according to which incorrect article was substituted for which correct article. Neither study considered correct as well as incorrect usage, and neither study categorized errors according to noun classes.

Willcott (1978a, 1978b) studied the written English of Arabic students at the University of Texas in Austin for problems in definiteness. The corpus of the study consisted of 16 three-hour American History final exams. Errors were categorized according to which incorrect article replaced which correct article and whether the error resulted in an ungrammatical noun phrase or was "inappropriate to the context and/or foreign sounding." The errors were then
counted and ranked according to absolute frequency. The following errors were the most common, accounting for 89 percent of the 574 errors: (a) zero instead of the, resulting in an ungrammatical noun phrase (235 occurrences), (b) the instead of zero—appropriate to the context and/or foreign sounding (120 occurrences), (c) zero instead of a, resulting in an ungrammatical noun phrase (86 occurrences), and (d) zero instead of the—appropriate to the context and/or foreign sounding (68 occurrences).

Willcott stated that he used the phrase foreign sounding for certain errors because "...something is wrong with such sequences, but I do not know exactly what" (p. 68). Examples of these errors are, "He went to the war," "to restore the purchase power," "of the farming," "in order to go ahead with war." These errors result in an inadequacy from the point of view of meaning that cannot be explained on the basis of sentence grammar, but that could be explained on the basis of the distinction between phoric and nonphoric noun phrases. Errors that Wilcott categorized as ungrammatical are those that can be explained on the basis of sentence grammar. Examples of these errors are, "the effect of new deal on society," "the old idea of unseen hand," "F.D.R. was great politician." They could be explained on the basis of both the distinction between phoric and nonphoric noun phrases and the distinction between noun classes.
Willcott gave the number of errors made in each category by each subject and the total number of errors for each category. He did not include correct as well as incorrect occurrences, and he did not include any statistical analyses.

Herranen (1978) did two error analyses of article usage by Finnish university students studying English. In the first analysis, the data was collected from the literature examination answers written by 90 students from all levels of English study. Subjects were selected by random sampling without replacement. Information about the number of years each student had studied English, age, etc. was not collected. The first 100 words of each paper were analyzed. Errors were categorized by article (definite, indefinite and zero) and by reference (specific or generic). The total number of errors was given without taking into account the number of correct uses.

The second analysis was a cloze procedure in which 45 first-year students at the University of Jyväskyla were asked to supply the correct article in a test given as part of the normal class procedure. Errors were again categorized by article and by reference. The categories with the largest number of errors in both analyses were: (a) specific reference with the definite article and (b) generic reference with zero article. In the first analysis the third most frequent category was specific reference with the
indefinite article, while in the second analysis it was
generic reference with the definite article. In both tests
the fourth category was specific reference with zero
article.

The order of difficulty according to student strategy
was addition of the, omission of the, addition of a, a
instead of the, omission of a, the instead of a, and
miscellaneous. The most frequent area of difficulty was
between the and zero (the first two categories of errors).

These two studies dealt exclusively with the articles
and therefore should have provided relevant information
about determiner functions and students' use of them. But,
like the studies of interlingual and intralingual errors and
the studies of morpheme acquisition, they suffer from
procedural problems that limit their usefulness. First, the
studies were not based on a meaningful analysis of deter-
miners. Only the articles and zero determiner were studied,
and they were not adequately analyzed. The exclusion of
other determiners distorts the reality and the complexity of
the determiner system, seeming to establish the and a in
binary opposition. Because of the lack of criteria for
judging the correctness or incorrectness of student
responses, the studies could not be replicated, and their
results provide no useful pedagogical information. For the
results to be useful we would need to know what article
functions were incorrectly applied.
The other procedural problem is that correct uses of the articles were excluded from consideration, which also results in a loss of information. Their inclusion would have enabled the researchers to arrive at a percentage of accuracy and to know how often and in what circumstances the students used articles both correctly and incorrectly.
CHAPTER III
PROCEDURES

Research Design

This was a descriptive study consisting of an analysis of the use of determiners in compositions written by university ESL students. In-class rather than take-home compositions were studied so that each composition was written within the same time limit under similar conditions.

Subjects

The population for this study consisted of students who were enrolled in the English 107 course for foreign students at The Ohio State University during the Spring Quarter of 1983. The English 107 course is the second of three English composition courses for foreign students. Students are placed in the course either on the basis of their scores on an English composition placement examination or by passing the 106 course. The 107 course was chosen because the syllabus is organized according to rhetorical modes of written discourse, that is, process, cause and effect, comparison, and classification. All of the compositions in
the study were written in the same mode in order to control for any possible variability in determiner use based on differences in rhetorical mode. The majority of the students were registered in undergraduate or master's level programs.

There were eight English 107 classes taught by five different instructors. The subjects were from 27 different countries and spoke 22 different native languages. The largest number spoke Chinese (30) followed by Korean (15), Malay (14), Arabic (10), Spanish (8), and Indonesian (8). Other languages included Hausa (7), Japanese (3), Greek (2), Tera (2), Vietnamese (2), and 11 other languages with one speaker each. The subjects also varied greatly in the length of time they had been in the United States, from a few weeks to 12 years. There were 75 subjects who had been here less than a year, 37 who had been here from one to five years, and five who had been here for more than five years. There were 91 males and 26 females in the study. The researcher was not given permission to administer a questionnaire to obtain further information about the subjects, such as the number of years they had studied English, their majors, their ages, etc.; therefore, this information was unavailable.
Data Collection

As part of the normal procedure used in the English 107 classes at The Ohio State University, an impromptu composition is assigned to be written in class each Friday and handed in to the instructor at the end of the period. One set of these in-class compositions was collected for analysis.

Approximately one week prior to the day that the compositions were to be written, a meeting was held with the English 107 instructors to discuss the topic and the procedures for collecting copies of the compositions. The instructors were told that the compositions would be analyzed as part of a research project, but they were not told that the purpose was to analyze the use of determiners. This was to ensure that they would not specifically teach determiners during the week before compositions were collected.

Each Friday, one instructor monitors all eight classes of the 107 course, combining any that are taught at the same hour. On the day that the compositions for this study were written, the instructor assigned the topic in the usual manner; he did not give the students any special instructions. At the end of the class he asked the students for their permission to use the compositions for this research
project. Before the compositions were marked, the researcher collected them from the instructor, made copies, and returned the originals to the instructor.

On the day the compositions were collected for analysis, five students were absent. No attempt was made to collect compositions from these students at a later date because there were so few students absent and because their compositions would have been written in different circumstances from the others.

Data Coding

The first step in coding the data was to designate the noun phrases in each composition by underlining and numbering them. (See Appendix A.) Each lexical noun was considered to be the head of a noun phrase. This means that a complex noun phrase was counted as two or more noun phrases according to the number of lexical nouns in it. This was to ensure that each point at which the student had to choose a determiner was counted as a noun phrase. In the following examples each underlined word would be considered as the head of a noun phrase:

1. Lyle is reading his daughter's magazine.
2. I live in the United States of America.
3. People who live in glass houses should not throw stones.
4. I saw a very interesting movie yesterday.
After the noun phrases were designated, each noun was
classified as proper or common, and common nouns were
further classified as singular or plural. Next, the
determiners used in each noun phrase were judged as either
correct or incorrect, and corrections were made of those
judged incorrect. (See Appendix B.) The following criteria
were used for both of these processes:

Zero determiner was judged correct with a common noun
if it was used as a mass, abstraction, institution, unspeci-
fied group, or totality. It was also judged correct with
proper nouns like Eleanor, Ohio, Christmas, etc. that
normally occur with zero determiner.

A nominative specifying determiner was judged correct
in any of the following situations:

1. There was a defining phrase following the noun or a
   superlative adjective preceding it. This was
classified as cataphora.

2. Preceding the noun there was an antecedent refer-
   ring to the same referent. This was classified as
   reiterative anaphora.

3. There was an antecedent that was in a part/whole or
   superordinate/subordinate relationship to the
   noun. This was classified as associative
   anaphora.
4. The noun was a common noun whose referent was unique or a representative of a class, or the noun was a proper noun such as United States, Alps, Mississippi River, etc. that normally occurs with the definite article. This was classified as exophora.

When more than one of these situations applied to the same noun phrase, precedence of classification was: cataphora, reiterative anaphora, associative anaphora, and exophora. In other words, if a noun referred anaphorically and exophorically at the same time, it was classified as anaphoric, etc.

Among the nominative specifying determiners, a demonstrative rather than the definite article was judged correct if proximity could be expressed. In such a case the demonstrative had to agree in number with the noun. In the case of associative anaphora, only the definite article was judged correct. Which was judged correct in an interrogative and classified as nonphoric or in a relative clause and classified as anaphoric.

A personal specifying determiner was judged correct if there was reference to a possessor of the noun. If the determiner was a possessive adjective, it had to agree in number and gender with the possessor of the noun. My, your, and our were classified as exophoric. His, her, its, and their were classified as anaphoric. Whose was classified
as anaphoric in a relative clause and exophoric in an interrogative. A genitive noun was classified as nonphoric.

A quantifying determiner was judged correct if a certain amount of the noun was designated. The quantifying determiner had to agree with the number and noun class of the noun: an amassive with a singular noun used as a noncount, a singular enumerative with a singular noun used as a count, and a plural enumerative with a plural noun. If the quantifying determiner co-occurred with a specifying determiner, only a definite quantifying determiner was judged correct. Because a and an are allomorphs, mistakes in distinguishing them were not considered errors. Every or each as opposed to a were judged correct if the meaning was "every one of two or more considered."

A distinguishing determiner was judged correct if the noun was like/unlike an antecedent or in sequence with an antecedent. A comparative was judged correct to express (non)likeness, while an ordinal was judged correct to express sequence.

A limiting determiner was judged correct if (a) a part of the group or whole was being designated, (b) it co-occurred with another determiner, and (c) it was not larger than that determiner. A limiting determiner that designated
a specific amount was classified as definite, while one that designated a non-specific amount was classified as indefinite.

At the same time that the choice of determiner(s) was judged, the order (if two or more co-occurred) was judged. The following order was judged correct: (1) limiting, (2) specifying, (3) distinguishing, and (4) quantifying. In a noun phrase in which only distinguishing and quantifying determiners occurred together, the order of (1) quantifying, (2) distinguishing was judged correct. The word another was classified as both quantifying and distinguishing.

In order to check the reliability of the rater, an experienced ESL teacher independently judged determiner correctness and made corrections in a randomly selected sample of 25 compositions. Phi, a Pearson Product Moment Correlation for 2 x 2 contingency tables, was used to correlate the two scorings of determiner correctness, and Table 1 shows the results.
Table 1

Frequencies of Ratings of Correct and Incorrect by Researcher and Independent Scorer

<table>
<thead>
<tr>
<th></th>
<th>Independent Scorer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Correct</td>
</tr>
<tr>
<td>Researcher</td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>1211</td>
</tr>
<tr>
<td>Incorrect</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td>1283</td>
</tr>
</tbody>
</table>

\( \phi = 0.736 \)

Both the judgement of correctness and the judgement of determiner category were consistent between the two scorers. For the 1211 determiners that both scorers judged to be correct, their level of agreement on the determiner categories was 100 percent. For the 148 determiners that both judged to be incorrect, they made the same correction in 88 percent of the determiners. This means that overall they agreed on 92.5 percent of the determiners for the sample of 1451 noun phrases. In the judgement of phoric category, however, the level of agreement was somewhat lower. For cases in which both scorers judged a specifying determiner to be correct, their agreement on the phoric category to assign to that determiner was 86.3 percent.
Data Analysis

For each category of determiner, the relative frequency of errors is given as a proportion with actual errors as the numerator and the possible number of errors as the denominator. This considers the extent of the corpus as well as allowing a determination of how often students used a structure both correctly and incorrectly (Schachter, 1977).

In order to answer the following research questions, descriptive statistics of means and standard deviations are furnished for each category of determiner.

1. In the written English of foreign university students what is the frequency of use of the determiners in each of the categories of the determiner system?

2. In the written English of foreign university students what is the relative frequency of errors in each of the categories of the determiner system?

3. In the written English of foreign university students what is the relative frequency of errors in which the incorrect determiner was chosen from the same category as the correct determiner as opposed to those in which the incorrect determiner was chosen from a different category?
CHAPTER IV
DATA ANALYSIS

Introduction

The data for this analysis consisted of determiners used in the noun phrases of 117 in-class compositions written by foreign students in the English 107 course at The Ohio State University during the Spring Quarter of 1983. The compositions were written in the mode of partition and consisted of either process or description topics. The 24 description topics included "Getting a Driving License" and "Taking a Final Examination." The 93 process topics included "The Telephone," "A Coin," "My Personal Problems," "The Computer," and other miscellaneous topics.

The five categories of determiners analyzed in this study were specifying, quantifying, zero, distinguishing, and limiting. The purpose of the study was to determine: (a) the frequency of use of each category of determiner, (b) the relative frequency of errors in each category of determiner, and (c) the relative frequency of errors in which incorrect determiners were chosen from the same category as the correct determiner and of those that were chosen from a different category. In order to accomplish
this purpose, each noun phrase was classified according to the determiner category required. The use of the determiner was then judged correct or incorrect. Finally, for the noun phrases judged incorrect, corrections were made.

**Frequency of Determiner Categories**

The first purpose of this study was to determine the frequency with which each determiner category was used based on the category of the required determiner. Of the 7011 noun phrases analyzed, 94 percent (6586) required only one determiner. Of the 6 percent (425) that required more than one determiner, 406 noun phrases contained 2 determiners, and 19 noun phrases contained 3 determiners. There were no noun phrases in which four determiners were used together. Means and standard deviations were calculated for each category based on the number of compositions in which it was used.

As Table 2 shows, there was a substantial disparity in the frequencies with which the various determiner categories were used. Including occurrences in combination with other determiners, specifying determiners, with a total of 3612 occurrences, were used the most frequently. Quantifying determiners were second with a total of 2113 occurrences, and zero determiner was third with 1265 occurrences. These three categories were the only ones that were used in each of the 117 compositions. Distinguishing determiners were
<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifying (Specif)</td>
<td>117</td>
<td>27.9</td>
<td>10.572</td>
<td>3275</td>
</tr>
<tr>
<td>Quantifying (Quant)</td>
<td>117</td>
<td>16.9</td>
<td>6.197</td>
<td>1975</td>
</tr>
<tr>
<td>Zero</td>
<td>117</td>
<td>10.8</td>
<td>6.977</td>
<td>1265</td>
</tr>
<tr>
<td>Distinguishing (Dist)</td>
<td>42</td>
<td>1.7</td>
<td>0.924</td>
<td>71</td>
</tr>
<tr>
<td>Specif + Quant</td>
<td>27</td>
<td>1.4</td>
<td>0.636</td>
<td>38</td>
</tr>
<tr>
<td>Specif + Dist</td>
<td>92</td>
<td>2.2</td>
<td>1.499</td>
<td>206</td>
</tr>
<tr>
<td>Limiting (Lim) + Specif</td>
<td>53</td>
<td>1.5</td>
<td>0.749</td>
<td>78</td>
</tr>
<tr>
<td>Quant + Dist</td>
<td>49</td>
<td>1.6</td>
<td>0.925</td>
<td>81</td>
</tr>
<tr>
<td>Lim + Quant</td>
<td>3</td>
<td>1.0</td>
<td>0.000</td>
<td>3</td>
</tr>
<tr>
<td>Specif + Dist + Quant</td>
<td>8</td>
<td>1.4</td>
<td>0.744</td>
<td>11</td>
</tr>
<tr>
<td>Lim + Dist + Quant</td>
<td>3</td>
<td>1.3</td>
<td>0.577</td>
<td>4</td>
</tr>
<tr>
<td>Lim + Specif + Quant</td>
<td>1</td>
<td>1.0</td>
<td>--</td>
<td>1</td>
</tr>
<tr>
<td>Lim + Specif + Dist</td>
<td>3</td>
<td>1.0</td>
<td>0.000</td>
<td>3</td>
</tr>
</tbody>
</table>

Note. A dash indicates that data were inapplicable for this cell.
aNumbers of subjects out of 117 who used each category.
used a total of 376 times, and limiting determiners, which can be used only in combination with other determiners, were the least frequently used with 89 occurrences.

Specifying determiners, which were the most frequently used category of determiners, are subclassified into two groups: personal and nominative. Personal specifying determiners, which include possessive adjectives and the genitive form of nouns, presuppose the possessor of a referent. Nominative specifying determiners, which include the definite article and demonstratives, presuppose the referent itself.

The use of specifying determiners is classified by phoric categories based on the location of the referent of the noun phrase. An exophoric noun phrase refers to a referent outside the text, a cataphoric noun phrase presupposes an element used later in the same text, and an anaphoric noun phrase presupposes an element used earlier in the same text. When the antecedent of an anaphoric noun phrase refers to the same referent as the noun phrase, the anaphora is reiterative; when it refers to a different but related referent, the anaphora is associative.

The majority (2819) of the specifying determiners used in the 117 compositions were nominative, and the most frequently used nominative determiner was the. In fact, the was the most frequently used determiner in the study. It was required in 1012 of the reiterative noun phrases, all
832 of the cataphoric, all 514 of the associative, and 162
of the exophoric noun phrases for a total of 2243 noun
phrases alone and another 277 noun phrases in combination
with other determiners. Demonstratives were used in 261
noun phrases alone (250 in reiterative noun phrases and 11
in exophoric noun phrases) and 31 reiterative noun phrases
in combination with other determiners. The nonphoric
nominative determiners, which and what, occurred in only
seven noun phrases. Table 3 summarizes the frequencies with
which specifying nominative determiners were used.
Table 3

Mean Frequencies and Standard Deviations of Specifying Nominative Determiners Per Composition

<table>
<thead>
<tr>
<th>Category</th>
<th>n⁺</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used Alone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reiterative</td>
<td>114</td>
<td>10.7</td>
<td>6.762</td>
<td>1217</td>
</tr>
<tr>
<td>Associative</td>
<td>93</td>
<td>4.4</td>
<td>2.855</td>
<td>407</td>
</tr>
<tr>
<td>Cataphoric</td>
<td>113</td>
<td>6.3</td>
<td>4.139</td>
<td>710</td>
</tr>
<tr>
<td>Exophoric</td>
<td>76</td>
<td>2.2</td>
<td>1.591</td>
<td>170</td>
</tr>
<tr>
<td>Nonphoric</td>
<td>7</td>
<td>1.0</td>
<td>0.000</td>
<td>7</td>
</tr>
<tr>
<td>Used in Combination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reiterative</td>
<td>47</td>
<td>1.6</td>
<td>0.768</td>
<td>76</td>
</tr>
<tr>
<td>Associative</td>
<td>59</td>
<td>1.8</td>
<td>1.279</td>
<td>107</td>
</tr>
<tr>
<td>Cataphoric</td>
<td>72</td>
<td>1.7</td>
<td>0.898</td>
<td>122</td>
</tr>
<tr>
<td>Exophoric</td>
<td>3</td>
<td>1.0</td>
<td>0.000</td>
<td>3</td>
</tr>
</tbody>
</table>

⁺Numbers of subjects out of 117 who used each category.
Like nominative determiners, personal determiners can be classified according to the location of their referents. Anaphoric personal determiners presuppose a possessor used earlier in the text and include the words his, her, its, and their. Exophoric personal determiners refer to a possessor outside the text and include my, your, and our. Nonphoric personal determiners name the possessor and consist of the genitive form of nouns. As Table 4 shows, there were 793 personal determiners used in 112 compositions. Of these, exophoric determiners were the most frequently used with 443 occurrences, followed by anaphoric determiners with 257 occurrences and nonphoric genitive nouns with 93 occurrences. The majority of personal determiners were used alone; there were only 29 personal determiners used in combination with other determiners.
Table 4

Mean Frequencies and Standard Deviations of Specifying Personal Determiners Per Composition

<table>
<thead>
<tr>
<th>Category</th>
<th>( n^a )</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Used Alone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaphoric</td>
<td>76</td>
<td>3.3</td>
<td>2.664</td>
<td>247</td>
</tr>
<tr>
<td>Exophoric</td>
<td>75</td>
<td>5.7</td>
<td>5.129</td>
<td>425</td>
</tr>
<tr>
<td>Nonphoric</td>
<td>47</td>
<td>1.9</td>
<td>1.587</td>
<td>92</td>
</tr>
<tr>
<td><strong>Used in Combination</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaphoric</td>
<td>5</td>
<td>2.0</td>
<td>1.225</td>
<td>10</td>
</tr>
<tr>
<td>Exophoric</td>
<td>15</td>
<td>1.2</td>
<td>0.414</td>
<td>18</td>
</tr>
<tr>
<td>Nonphoric</td>
<td>1</td>
<td>1.0</td>
<td>--</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. A dash indicates that data were inapplicable in this cell. Numbers of subjects out of 117 who used each category.
Quantifying determiners, which express the amount of the referent, are classified as singular or plural enumeratives when they designate a noun used as a count noun, as ammassives when they designate a noun used as a noncount noun, and as general quantifiers when they can be used with either a count or a noncount occurrence of a noun. Enumeratives and ammassives can be further divided into definite or indefinite according to whether they designate a specific or nonspecific amount, but all general quantifiers are indefinite.

Quantifying determiners, the second most frequently used determiners in this study, were used in 1975 noun phrases alone and in 138 noun phrases in combination with other determiners. Within this category, indefinite singular enumeratives were used more than all other quantifiers combined (1322 times) and were the only quantifiers used in all 117 compositions. The indefinite article, which was used in 1212 noun phrases alone and another 52 combined with other determiners, accounts for this high frequency. The other indefinite singular enumeratives were used infrequently; each was used 19 times, either was used only once, and every was used 38 times. Of the 397 plural enumeratives used in the compositions, 275 were definite plurals including cardinal numbers used alone 203 times and in combination with other determiners 62 times; another 122 were indefinite plurals including the word many used 70
times. General quantifiers were used 297 times including partitive expressions such as lots of (89) and the words some (69), any (50), and no (25). The least frequently used quantifiers were amassives with only 41 occurrences most of which were partitive expressions such as a piece of. The frequency with which quantifying determiners were used is summarized in Table 5.
<table>
<thead>
<tr>
<th>Category</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Used Alone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indefinite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>117</td>
<td>10.8</td>
<td>5.199</td>
<td>1270</td>
</tr>
<tr>
<td>Plural</td>
<td>68</td>
<td>1.7</td>
<td>1.852</td>
<td>115</td>
</tr>
<tr>
<td>Amassive</td>
<td>12</td>
<td>1.33</td>
<td>0.651</td>
<td>16</td>
</tr>
<tr>
<td>General</td>
<td>97</td>
<td>2.9</td>
<td>1.947</td>
<td>280</td>
</tr>
<tr>
<td>Definite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>41</td>
<td>1.4</td>
<td>0.581</td>
<td>56</td>
</tr>
<tr>
<td>Plural</td>
<td>91</td>
<td>2.3</td>
<td>1.772</td>
<td>213</td>
</tr>
<tr>
<td>Amassive</td>
<td>18</td>
<td>1.3</td>
<td>0.594</td>
<td>24</td>
</tr>
<tr>
<td><strong>Used in Combination</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indefinite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>33</td>
<td>1.6</td>
<td>0.936</td>
<td>52</td>
</tr>
<tr>
<td>Plural</td>
<td>6</td>
<td>1.0</td>
<td>0.000</td>
<td>6</td>
</tr>
<tr>
<td>General</td>
<td>12</td>
<td>1.4</td>
<td>0.668</td>
<td>17</td>
</tr>
<tr>
<td>Definite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plural</td>
<td>38</td>
<td>1.6</td>
<td>1.195</td>
<td>62</td>
</tr>
<tr>
<td>Amassive</td>
<td>1</td>
<td>1.0</td>
<td>0.000</td>
<td>1</td>
</tr>
</tbody>
</table>

<sup>a</sup>Numbers of subjects out of 117 who used each category.
Zero determiner, the third most frequently used determiner category in this study, was used 1265 times. It is used with both common and proper nouns, and its use indicates that a noun is being used as a mass, institution, or undifferentiated plural. Table 6 summarizes the frequency with which zero determiner was used.

<table>
<thead>
<tr>
<th>Category</th>
<th>n</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singular</td>
<td>108</td>
<td>5.4</td>
<td>4.129</td>
<td>588</td>
</tr>
<tr>
<td>Plural</td>
<td>108</td>
<td>3.8</td>
<td>2.976</td>
<td>416</td>
</tr>
<tr>
<td>Proper</td>
<td>59</td>
<td>4.4</td>
<td>2.937</td>
<td>261</td>
</tr>
</tbody>
</table>

\(^a\)Numbers of subjects out of 117 who used each category.
The function of distinguishing determiners is to relate referents to each other. They consist of words such as other, equal, and same, which indicate (non)likeness and are classified as comparatives, and words such as first, last and next, which indicate order and are classified as ordinals. Unlike specifying and quantifying determiners, which were most frequently used alone, distinguishing determiners were used most frequently in combination with other determiners. (See Table 7.) All of the 71 distinguishing determiners used alone were comparatives with the word other used 43 times and the word different used 28 times. The majority (198) of the occurrences of comparative determiners in combination with other determiners were with nominative determiners. Next were 81 occurrences of comparatives with quantifying determiners. Overall, the most frequently used comparative was other, which was used 135 times (43 times alone, 43 times with the, 34 times with a, and 25 times in other combinations). The 135 ordinals that were used in the study included ordinal numbers (first, second, third, etc.) used 104 times and the word last used 19 times.
## Table 7

Mean Frequencies and Standard Deviations of Distinguishing Determiners Per Composition

<table>
<thead>
<tr>
<th>Category</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used Alone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparative</td>
<td>42</td>
<td>1.7</td>
<td>0.924</td>
<td>71</td>
</tr>
<tr>
<td>Used in Combination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparative</td>
<td>79</td>
<td>2.2</td>
<td>1.387</td>
<td>170</td>
</tr>
<tr>
<td>Ordinal</td>
<td>63</td>
<td>2.1</td>
<td>1.501</td>
<td>135</td>
</tr>
</tbody>
</table>

<sup>a</sup>Numbers of subjects out of 117 who used each category.
Limiting determiners, which must be used in combination with other determiners, designate a portion or subgroup of the determiners they precede. Like quantifying determiners, they are subclassified as either definite or indefinite according to whether they designate a specific or nonspecific amount. Limiting determiners were the least frequently used category of determiners in this study, occurring in only 89 noun phrases. As Table 8 shows, the majority were indefinite. Limiting determiners were used most frequently in combination with specifying determiners (52 indefinite and 26 definite). The most frequently used limiting determiner was all (of) with 44 occurrences, followed by one of with 19 occurrences.

Table 8

<table>
<thead>
<tr>
<th>Category</th>
<th>n^a</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indefinite</td>
<td>46</td>
<td>1.4</td>
<td>0.737</td>
<td>62</td>
</tr>
<tr>
<td>Definite</td>
<td>20</td>
<td>1.4</td>
<td>0.587</td>
<td>27</td>
</tr>
</tbody>
</table>

^aNumbers of subjects out of 117 who used each category.
Frequency of Errors in the Use of Determiners

The second purpose of this study was to determine the frequency with which errors were made in the use of each determiner category. Because calculating the absolute frequency of errors in each category does not take into account diverse category sizes, the relative frequency of errors was calculated as a ratio of the actual number of errors to the possible number of errors. Because the determiners were infrequently used in combination with each other, combinations of determiners were grouped together for the purpose of this analysis. Each of the 117 subjects made at least one error, for an average of 11 errors per composition, a total of 1288 errors, and a relative frequency of 18.4 percent. Table 9 shows the frequency of errors for each of the determiner categories.
Table 9

Means, Standard Deviations, and Relative Frequencies of Errors in the Use of Determiner Categories Per Composition

<table>
<thead>
<tr>
<th>Category</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
<th>Ratio&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifying</td>
<td>105</td>
<td>5.3</td>
<td>4.848</td>
<td>558</td>
<td>17.0</td>
</tr>
<tr>
<td>Quantifying</td>
<td>106</td>
<td>4.4</td>
<td>3.004</td>
<td>466</td>
<td>23.6</td>
</tr>
<tr>
<td>Zero</td>
<td>77</td>
<td>2.4</td>
<td>2.092</td>
<td>185</td>
<td>14.6</td>
</tr>
<tr>
<td>Distinguishing</td>
<td>10</td>
<td>1.1</td>
<td>0.316</td>
<td>11</td>
<td>15.5</td>
</tr>
<tr>
<td>Combined Determiners</td>
<td>44</td>
<td>1.5</td>
<td>0.848</td>
<td>68</td>
<td>16.0</td>
</tr>
</tbody>
</table>

<sup>a</sup>Numbers of subjects out of 117 who made errors in each category.

<sup>b</sup>Ratio of actual number of errors to possible number of errors.
Of the 117 subjects who used specifying determiners, 105 made errors in their use for a total of 558 errors and a relative frequency of 17.0 percent. Within this category, the relative frequency of errors was higher (18.8 percent overall) for the use of nominative determiners than it was for the use of personal determiners (11.3 percent overall). Among nominative determiners, the phoric category with the highest percentage of errors was associative, and the one with the lowest percentage was cataphoric. Among personal determiners, the highest percentage of errors was in the use of anaphoric noun phrases, and the lowest was in the use of nonphoric noun phrases. The relative frequency of errors in the use of specifying determiners is summarized in Table 10.
Table 10

<table>
<thead>
<tr>
<th>Category</th>
<th>( n^a )</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
<th>Ratio(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reiterative</td>
<td>70</td>
<td>3.2</td>
<td>3.314</td>
<td>225</td>
<td>18.5</td>
</tr>
<tr>
<td>Associative</td>
<td>45</td>
<td>2.6</td>
<td>1.672</td>
<td>116</td>
<td>28.5</td>
</tr>
<tr>
<td>Cataphoric</td>
<td>50</td>
<td>1.8</td>
<td>1.235</td>
<td>92</td>
<td>12.9</td>
</tr>
<tr>
<td>Exophoric</td>
<td>28</td>
<td>1.4</td>
<td>0.786</td>
<td>39</td>
<td>22.9</td>
</tr>
<tr>
<td>Personal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaphoric</td>
<td>33</td>
<td>1.4</td>
<td>0.704</td>
<td>46</td>
<td>18.6</td>
</tr>
<tr>
<td>Exophoric</td>
<td>25</td>
<td>1.6</td>
<td>0.821</td>
<td>39</td>
<td>9.2</td>
</tr>
<tr>
<td>Nonphoric</td>
<td>1</td>
<td>1.0</td>
<td>--</td>
<td>1</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Note. A dash indicates that data were inapplicable for this cell.
\(^a\) Numbers of subjects out of 117 who made errors in each category. \(^b\) Ratio of actual number of errors to possible number of errors.
Of the 117 subjects who used quantifying determiners, 106 made a total of 466 errors for a relative frequency of 23.6 percent, which was the highest overall percentage of errors for any category. This was caused by the high (34.2) percentage of errors for the indefinite article. Of 1212 noun phrases requiring the indefinite article, 414 were incorrect. Other quantifiers had low percentages of errors; in fact, the relative frequency of errors for plural quantifiers overall was only 2.1 percent. The relative frequency of errors in the use of quantifying determiners is shown in Table 11.
Table 11

Means, Standard Deviations, and Relative Frequencies of Errors in the Use of Quantifying Determiners Per Composition

<table>
<thead>
<tr>
<th>Category</th>
<th>n^a</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
<th>Ratio^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indefinite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>104</td>
<td>4.1</td>
<td>2.892</td>
<td>424</td>
<td>33.4</td>
</tr>
<tr>
<td>Plural</td>
<td>3</td>
<td>1.0</td>
<td>0.000</td>
<td>3</td>
<td>2.6</td>
</tr>
<tr>
<td>Amassive</td>
<td>1</td>
<td>1.0</td>
<td>--</td>
<td>1</td>
<td>6.2</td>
</tr>
<tr>
<td>General</td>
<td>14</td>
<td>1.4</td>
<td>0.938</td>
<td>20</td>
<td>7.1</td>
</tr>
<tr>
<td>Definite</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>8</td>
<td>1.1</td>
<td>0.353</td>
<td>9</td>
<td>16.1</td>
</tr>
<tr>
<td>Plural</td>
<td>4</td>
<td>1.0</td>
<td>0.000</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Amassive</td>
<td>4</td>
<td>1.2</td>
<td>0.500</td>
<td>5</td>
<td>20.8</td>
</tr>
</tbody>
</table>

Note. A dash indicates that data were inapplicable for this cell. ^aNumbers of subjects out of 117 who made errors in each category. ^bRatio of actual number of errors to possible number of errors.
Of the 117 subjects who used zero determiner, 105 made a total of 185 errors for a relative frequency of 14.6 percent. As Table 12 shows, the frequency of errors for zero determiner varied according to whether it was used with a singular, plural, or proper noun. The highest percentage of errors in the use of zero determiner was with plural nouns, and the lowest was with proper nouns.

Table 12

<table>
<thead>
<tr>
<th>Category</th>
<th>n\textsuperscript{a}</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
<th>Ratio\textsuperscript{b}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singular</td>
<td>51</td>
<td>1.9</td>
<td>1.432</td>
<td>97</td>
<td>16.5</td>
</tr>
<tr>
<td>Plural</td>
<td>45</td>
<td>1.8</td>
<td>1.636</td>
<td>80</td>
<td>19.2</td>
</tr>
<tr>
<td>Proper</td>
<td>4</td>
<td>2.0</td>
<td>0.816</td>
<td>8</td>
<td>3.1</td>
</tr>
</tbody>
</table>

\textsuperscript{a}Numbers of subjects out of 117 who made errors in each category. \textsuperscript{b}Ratio of actual number of errors to possible number of errors.
The frequency of use for each of the various combinations of determiners was low with a resulting low number of errors. There is, therefore, little purpose in discussing the relative frequency of errors for each individual combination of determiners. As Table 13 shows, the highest relative frequency of errors in the use of determiners in combination occurred in combinations that included quantifying determiners.

Table 13

<table>
<thead>
<tr>
<th>Combination</th>
<th>n^a</th>
<th>Mean</th>
<th>S.D.</th>
<th>Total</th>
<th>Ratio^b</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Specifying^c</td>
<td>31</td>
<td>1.4</td>
<td>0.615</td>
<td>43</td>
<td>12.8</td>
</tr>
<tr>
<td>With Quantifying^d</td>
<td>16</td>
<td>1.6</td>
<td>0.964</td>
<td>25</td>
<td>28.4</td>
</tr>
</tbody>
</table>

^aNumbers of subjects out of 117 who made errors in each category. ^bRatio of actual number of errors to possible number of errors. ^cThis category includes combinations with limiting, distinguishing, and/or quantifying determiners. ^dThis category includes combinations with limiting and/or distinguishing determiners.
Frequency of Errors from the Same and Different Categories

The third purpose of this study was to determine the relative frequency of errors in which incorrect determiners were chosen from the same category as the correct determiner (within-category errors) and those in which the incorrect determiner was chosen from a different category (between-category errors). Overall, the majority of errors were from different categories, but in the use of certain determiners, such as personal determiners, demonstratives, and some quantifiers, the majority of errors were from the same category. The frequency of within-category and between-category errors is shown in Table 14.
Table 14

Overall Frequencies of Within-Category and Between-Category Errors

<table>
<thead>
<tr>
<th>Category</th>
<th>Within</th>
<th>Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifying</td>
<td>115</td>
<td>443</td>
</tr>
<tr>
<td>Quantifying</td>
<td>45</td>
<td>421</td>
</tr>
<tr>
<td>Zero</td>
<td>--</td>
<td>185</td>
</tr>
<tr>
<td>Distinguishing</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Combined with Specifying</td>
<td>15</td>
<td>28</td>
</tr>
<tr>
<td>Combined with Quantifying</td>
<td>2</td>
<td>23</td>
</tr>
</tbody>
</table>

Note. A dash indicates that data were inapplicable in this cell.
Between-category errors can be classified according to the category to which the incorrectly used determiner belongs. The three categories most frequently used incorrectly were zero, specifying, and quantifying. In fact, 96.4 percent of the errors from categories different from the correct category involved the incorrect use of a determiner from one of these three categories.

Although zero determiner was the most frequently chosen incorrect determiner in the use of nominative determiners, the relative frequency varied considerably for each of the phoric categories: 90 percent for exophora, 85 percent for associative anaphora, 60 percent for reiterative anaphora, and 49 percent for cataphora. There was a high percentage of within-category errors for reiterative anaphora and a high percentage of incorrect quantifying determiners for cataphora. Table 15 summarizes the frequency of errors in the use of specifying determiners.
<table>
<thead>
<tr>
<th>Category</th>
<th>Specifying</th>
<th>Quantifying</th>
<th>Zero</th>
<th>Misc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reiterative</td>
<td>44</td>
<td>47</td>
<td>134</td>
<td>0</td>
</tr>
<tr>
<td>Associative</td>
<td>6</td>
<td>11</td>
<td>99</td>
<td>0</td>
</tr>
<tr>
<td>Cataphoric</td>
<td>4</td>
<td>36</td>
<td>45</td>
<td>7</td>
</tr>
<tr>
<td>Exophoric</td>
<td>0</td>
<td>3</td>
<td>35</td>
<td>1</td>
</tr>
<tr>
<td>Personal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaphoric</td>
<td>34</td>
<td>3</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Exophoric</td>
<td>27</td>
<td>1</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Nonphoric</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. Misc = miscellaneous.
The majority of errors in the use of personal determiners were within-category errors. Of these, 49 involved the incorrect use of a nominative and 12 involved the incorrect use of another personal. The majority of these errors were errors in number (singular for plural or vice versa). As Table 15 shows, the pattern of errors in the use of personal determiners was similar for anaphoric and exophoric noun phrases.

The pattern of errors also varied among the various quantifying determiners. The majority of errors were made in the use of indefinite singular enumeratives, and the largest variety of errors was also made in the use of this category. All of the cases in which zero was the incorrect choice and 98 percent of the cases in which a specifying determiner was the incorrect choice were errors in the use of indefinite singulars. For the other categories of quantifying determiners, the majority of errors were within-category. Table 16 shows the frequencies of error categories for quantifying determiners.
Table 16

Overall Frequencies of Errors in the Use of Quantifying Determiners by Category of Incorrect Determiner

<table>
<thead>
<tr>
<th>Category</th>
<th>Specifying</th>
<th>Quantifying</th>
<th>Zero</th>
<th>Misc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indefinite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>162</td>
<td>21</td>
<td>227</td>
<td>14</td>
</tr>
<tr>
<td>Plural</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Amassive</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>General</td>
<td>3</td>
<td>7</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Definite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singular</td>
<td>1</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Plural</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Amassive</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. Misc = miscellaneous.
Errors in the use of zero determiner came from only two categories: specifying and quantifying. Of the 185 errors, 147 were the incorrect use of the definite article, and 38 were the incorrect use of the indefinite article. The incorrect use of the definite article was most frequent with plural nouns, and the incorrect use of the indefinite article was most frequent with singular nouns.

All of the 11 errors made in the use of distinguishing determiners consisted of the incorrect addition of a determiner in the use of other. There were five additions of a and six additions of the.

Each of the individual combinations of determiner categories had such low frequencies of errors that there is little purpose in discussing them individually, but altogether there were 68 errors that fit into a noticeable pattern. Most of the errors in the use of a combination of determiners involved incorrect uses of specifying or quantifying determiners. When a specifying determiner was one of the combined determiners, the errors were the following: the incorrect use of another specifying determiner (14), the incorrect use of the indefinite article (5), the omission of the definite article (19), and incorrect order (3). When a quantifying determiner was combined with limiting and/or distinguishing determiners, the errors were the following: the incorrect use of another quantifying
determiner (2), the incorrect use of the definite article (10), the omission of the indefinite article (13), and incorrect order (2).

Summary of Findings

This study investigated the use of determiners by ESL learners. In particular, it was a description of the frequency with which each of the five determiner categories were used, the frequency with which errors were made in each of them, and the categories from which incorrect determiners were chosen.

Nominative determiners, which consist of the definite article and demonstratives, were the most frequently used determiners in this study. In fact, the definite article was used more frequently than any other determiner (in 2520 noun phrases). It was used most frequently in reiterative anaphora, but the highest frequency of errors was in associative anaphora. The majority of errors came from other categories with the most frequent error being zero determiner, followed by quantifying determiners, in particular the indefinite article. A higher proportion of incorrect quantifying determiners were used in cataphora than in any other phoric category. Demonstratives, which occurred in 293 noun phrases, were used much less frequently than the definite article and had a lower frequency of errors (11 percent). Unlike the majority of errors in
the use of the definite article, the majority of errors in
the use of demonstratives were within-category errors
involving other nominative determiners.

Personal determiners were used in 793 noun phrases with
11.7 percent of them used incorrectly. The majority of
errors that were made in using personal determiners were
within-category errors, either the use of the definite
article or the use of another personal determiner.

Quantifying determiners were the second most frequently
used category of determiners (2113) and had the highest
frequency of errors. The indefinite article was responsible
for both of these facts. It constituted 59.8 percent of the
quantifying determiners and had the highest percentage of
errors of any determiner (34.2 percent). Excluding the
indefinite article, the relative frequency of errors in the
use of the other quantifying determiners was low (6.1
percent). The pattern of errors was also different for the
indefinite article. For it, the most frequently used
incorrect determiners were zero and the definite article.
For the other quantifying determiners, however, the most
frequent error was the substitution of another quantifying
determiner.

Zero determiner was the third most frequently used
determiner (1265) and had the lowest percentage of errors
(14.5 percent). All of the errors that were made in the use
of zero determiner were the use of specifying determiners
(mostly the definite article) or the use of the indefinite article. Zero determiner was, however, the most frequently chosen incorrect determiner.

Distinguishing determiners were used in only 5.4 percent (376) of the noun phrases studied. Unlike specifying and quantifying determiners, they were most frequently used in combination with other determiners, particularly specifying. When errors were made in the use of distinguishing determiners, they consisted of the addition of another determiner rather than the omission of the distinguishing determiner. Likewise, distinguishing determiners were not selected as incorrect choices when other determiners were required.

Limiting determiners, occurring in 89 noun phrases, were the least frequently used determiners in the study. When an error was made in a noun phrase requiring a limiting determiner, it was an error in the use of the specifying or quantifying determiner accompanying the limiting determiner. Although they were not a frequently chosen incorrect determiner, there were cases in which limiting determiners were used incorrectly. They were sometimes used without another determiner as in most of Americans, and they were sometimes used inappropriately with singular nouns as in one of the boy.
In summary, the three determiners, the, a, and zero determiner, contrast sharply with the other determiners analyzed in this study. They were used the most frequently, were the only determiners that were used by all of the subjects, had the highest relative frequency of errors, and were the most frequently used as incorrect determiners. In contrast, personal, distinguishing, limiting, and quantifying determiners other than a were used infrequently, had low percentages of errors, and were infrequently used as incorrect determiners. Furthermore, the majority of errors in the use of the, a, and zero were determiners from other categories, but the majority of errors in the use of personals, demonstratives, and quantifiers other than a were within-category errors.
CHAPTER V

DISCUSSION, LIMITATIONS, AND RECOMMENDATIONS

Discussion

This was a descriptive study, and it is therefore beyond its scope and purpose to generalize beyond the population of the study or to make inferences about the causes for the frequencies observed in it. It is not possible, for example, to infer that errors were caused by native language interference or that the subjects' use of determiners would be the same in speech as it was in their writing. It is possible, however, to identify differences in the meaning and usage of individual determiners that may assist in the interpretation of the data.

Determiners are structure words; they have a primarily grammatical rather than a referential meaning. Their grammatical function is to relate noun phrases to their referents and to other parts of the text. They distinguish referents, designate noun classes, quantify, and mark phoricity. Two determiners, the definite article, the, and the indefinite article, a, are of particular importance in the determiner system.
The and a can be considered prototypes of the determiner system; they, unlike other determiners, have no meaning beyond their grammatical functions. Whereas other specifying determiners have additional meanings of proximity (this versus that), of number (that versus those), or of gender (his versus her), "The definite article has no content. It merely indicates that the item in question is specific and identifiable; that somewhere the information for identifying it is recoverable" (Halliday & Hasan, 1976, p. 71). The indefinite article also has no content. It merely indicates that a singular noun is to be taken as a unit reference with overtones of quantity (Hewson, 1972). It does not have the counting force that other quantifiers have; the number one rather than a is used for counting.

Because they have no meaning beyond their structural role as determiners, the articles can be considered unmarked determiners, the ones to be used unless additional meaning is required. It is therefore not surprising that they are among the most frequently used words in English.

The subjects of this study used the articles more frequently than any other determiner; together the articles constituted 60 percent of the determiners used. This high frequency is consistent with the frequency with which the articles are used by native speakers.
The subjects also made errors in their use of the articles more frequently than they did in their use of other determiners. The articles' lack of referential meaning may have contributed to this circumstance. To use the articles correctly, learners must rely completely on understanding their functional role; they cannot rely on additional meanings as they can with other determiners.

The subjects not only used the articles incorrectly more frequently than they did other determiners, they also chose different incorrect determiners. When they made errors in the use of the articles, they either substituted one article for the other or used zero determiner. When they made errors in the use of personal, demonstrative, and quantifying determiners other than a, however, they made within-category errors of incorrect proximity, number, or gender.

There was a high frequency of errors in which zero determiner was the incorrect choice. Because zero determiner can be viewed as a lack of determiner, this may indicate that the choice students were making is simply whether or not to use any determiner. There is, however, no conclusive evidence that this is the case, and this must remain as a hypothesis in need of further testing.

The subjects used determiners in combinations in only six percent of the noun phrases. This could be a reflection of the low frequency with which native speakers combine
determiners, or it could be an indication that the subjects avoided combining determiners for some reason. Without data on the frequency with which native speakers use determiners in combinations, it is not possible to state which explanation is more probable.

Limitations

This was an exploratory study whose purpose was first to analyze and categorize determiners and then to use that categorization to analyze the use of determiners by foreign students of English. One composition per subject was available for analysis, and the assumption was made that this would be an adequate representation of each subject's ability to use determiners. This assumption, however, was not entirely justified. Analysis of the compositions indicates that the topic of a composition does, in part, constrain the use of determiners. For example, compositions whose topic was the description of a person contained a higher proportion of personal determiners than did compositions whose topic was the description of an object. Several samples per subject with a wider range of topics might have yielded a more precise report of the frequency with which learners use the various determiners.
Recommendations for Further Research

There are several possible avenues of further research that could be recommended on the use of determiners by foreign students of English. Because of the limitations imposed by the analysis of only one composition per subject, it is recommended that a replication of the present study be conducted with certain changes. First, several compositions should be analyzed for each subject to ensure an adequate representation of each subject's use of determiners. Also, samples of work by native writers could be included as a control. This would enable the researcher to detect determiners that foreign learners avoid using.

Research should also investigate the use of determiners by language learners at different levels of instruction. The present study involved subjects who had received several years of instruction in English. It would be useful to investigate the beginning learner's use of determiners.

Another avenue of research that would be useful is an investigation of the differences in the use of determiners by language learners with various native languages. Languages differ markedly in the methods that they use to express the functions of determinedness. Some, like English, use independent words, some, like Turkish, use noun inflections, and others, like Polish, do not seem to express determinedness (Kramsky, 1972). A comparison of learners' use of determiners based on differences in their native
languages could reveal whether these differences are reflected in the learners' use of the English determiner system.

Further research could also attempt to investigate the use of determiners in the spoken English of foreign students. There are, of course, many similarities in the use of determiners in spoken and written English. But there are also differences, and an investigation of language learners' use of determiners in spoken English would be useful.

Finally, a needed avenue of research is a study that would provide evidence of whether the five determiner categories described in this study have a practical application in the teaching of English to foreign students. In ESL textbooks, each determiner is defined and taught on an individual basis rather than on the basis of the functional system of determination. An experimental study is needed to compare this conventional method of teaching determiners with a method of teaching determiners based on determiners as a system.

The present study was exploratory in nature. Its purpose was to analyze the English determiner system and to apply that analysis to an investigation of the use of determiners in the writing of ESL learners. The results indicate that further research is warranted. Given the fact that this linguistic system includes some of the most frequently used words in the English language and the fact
that it serves important text-forming functions, it is a system that merits additional research to investigate questions that were beyond the scope of this study.
ABBIBIOGRAPHY


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APPENDICES
Appendix A
SAMPLE COMPOSITION

Three weeks ago, during our Quarter break, I went to Ruby Falls, a famous National Park which located in the south bound of Tennessee, with four friends. Besides the splendorous and great natural scenes of that underground falls, the wonderful man-made planning for that area has increased its attractives for tourists. Since that trip, I realized the importance of a park planning. However, I believe that there are several responsibilities that a park planner should have.

First of all, a park planner has a responsibility to provide technical and professional information for disision-makers. Some planners intent to give some acceptable, but not technical, information for their bosses, decision-makers, therefore, a park design will be somewhat popular but will not be a great one.
The second important responsibility is that a planner plays a role of educator. Who will be educated? In my opinion, visitors, tour guides, decision-makers, archetects and the planner himself should be educated in the planning process. Therefore, a wonder pretty nature scene could avoid some disturbed caused by innocent of nature.

However, as a planner, one should realize he is a most important role for a park design and do his best in the planning process. On the other hand, as a visitor, I would appreciate the great nature scene and the wonderful planning for that area.
## Appendix B

### SAMPLE CODING SHEET

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a Explanation of No.
sg = singular, pl = plural, pr = proper

b Explanation of C/I
c = correct, i = incorrect

cExplanation of categories:

Column 1 = Limiting Determiner (0 = no limiting determiner, 1 = indefinite, 2 = definite)

Column 2 = Specifying Determiner (0 = no specifying determiner, 1 = nominative, 2 = personal)

Column 3 = Phoric Category of Specifying Determiner (0 = no specifying determiner, 1 = reiterative, 2 = associative, 3 = cataphoric, 4 = exophoric, 5 = nonphoric)

Column 4 = Distinguishing Determiner (0 = no distinguishing determiner, 1 = comparative, 2 = ordinal)

Column 5 = Quantifying Determiner (0 = no quantifying determiner, 1 = indefinite, 2 = definite)

Column 6 = Type of Quantifying Determiner (0 = no quantifying determiner, 1 = singular enumerative, 2 = plural enumerative, 3 = amassive, 4 = general)