

A STUDY OF THE EFFECTIVENESS OF THE
GRAMMAR KEY IN TEACHING BASIC
ENGLISH GRAMMAR TO ADULTS
IN TWO SELECTED OKLAHOMA
JUNIOR COLLEGES

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Graduate College of the
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in partial fulfillment of
the Degree of
DOCTOR OF EDUCATION
December, 1990

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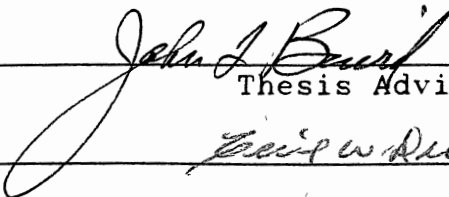
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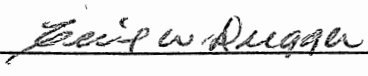
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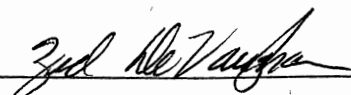
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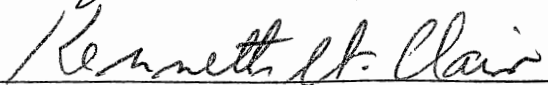
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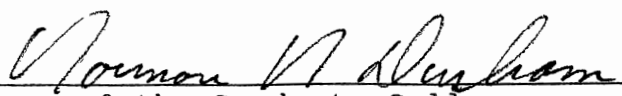


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PREFACE

This study is concerned with the abilities of individual students to use the American English language effectively. Studies and common experience show that many of today's young Americans are unable to express themselves meaningfully. This study explores a mnemonic method to determine whether the method has an impact on teaching and emphasizing grammar to adults with a limited background in the subject.

I wish to express my gratitude to the individuals who helped me with this project and who gave me support during my course work at Oklahoma State University. In particular, I wish to thank my dissertation advisor, Dr. John Baird, for his patience, guidance, and invaluable aid. I am also grateful to the other committee members, Dr. Cecil Dugger, chairman; Dr. Kenneth St. Clair; and Dr. Zed DeVaughan for their advisement during the course of this work.

Special thanks are due my wife, Darla, and my son, Kyle, for their support throughout the last two and one-half years. I also wish to thank Dr. Janice Williams for assistance with the statistical portion of this study, Kathy Wilson who assisted me in my research, and Dr. James Key for the help I received from his research design class.

I wish to dedicate this study to Richard P. Feynman,
Ph.D. (Physics) (1918-1988), a mentor I never met.

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CHAPTER I

INTRODUCTION

Background

A report by the Educational Testing Service, Crossroads in American Education (Applebee, Langer & Mullis, 1989), indicates that students' abilities to communicate effectively are poor. The report was published in February, 1989, and the students reflected in the report were the college freshman class of 1990.

Many students consider English an incomprehensible set of rules that can only be understood and used effectively by an elite few. Many adult students seem to view English grammar only as having a dollar value in the employment market. Warfel (1952) indicated in Who Killed Grammar? that Americans should be able to speak and use the English language the way the rest of the world speaks and uses English.

A review of literature indicated the plight of American English instruction in the United States results from an inability of traditional and progressive educators to compromise on a method for the instruction of English grammar. The Grammar Key, the grammar method studied in this paper, is a method that falls in between these two camps.

Rationale

The Grammar Key was developed by Conklin (1987), an English teacher who views the basic grammar patterns as having a primary position in the understanding and creative use of the English language. His method attempts to unlock the doors of grammar for his students from the first moments of the first class. The Grammar Key uses clues that help students see the "secrets" of grammar in their own work, as well as in the work sheets provided with the package. The program emphasizes total sentence development, something that is often forgotten in today's classrooms at all levels. All effort is directed toward understanding the sentence without going beyond the students' abilities. The Grammar Key uses mnemonic devices to help students identify parts of speech according to their relationship to other words in a sentence. Conklin says students learn to understand the sentence as a body of related skills working together, much as an effective athletic team works together.

Most traditional methods teach only one skill at a time in disconnected serial sequencing, while many progressive methods seek to emphasize the students' abilities to express themselves in their own ways. The Grammar Key helps grammar become a workable process students can apply to their own writing. The program includes visual, verbal, and auditory aids keyed to a schematic to reinforce the recall and understanding of the process.

Statement of the Problem

Educators need to find more effective ways to teach English proficiency and to have confidence that these means of instruction are related to measurable improvement.

Purpose of the Study

The purpose of this study was to determine whether The Grammar Key, an innovative method of teaching English grammar, would effectively help adult students build or improve a foundation of English grammar skills which could be understood, applied, and then measured under differing conditions. Research in this area will help institutions determine whether The Grammar Key can effectively enhance their English programs.

Objectives

The major research questions identified in this study were as follows:

1. Can the grammar skills taught in The Grammar Key be understood in each of three conditions?
2. Can the learned skills be applied?
3. Can the acquired skills be measured?
4. Can the companion test for The Grammar Key be validated?

The objective of this study is to answer the four questions listed above.

Connors (1983), in a paper presented to the Annual Meeting of the National Council of Teachers of English said that the real problem in teaching English today is striking a happy medium between traditional methods and progressive methods of teaching English grammar.

Conklin (1987), in *The Grammar Key* (formerly *The Four Steps to English*), had recorded amazing gain scores in the understanding of English grammar using his companion test. In this study, it was necessary to determine whether Conklin's instrument could be validated against a known instrument, as well as to measure gain scores of students. It was feared that Conklin's instrument, his companion test to *The Grammar Key*, only reflected what he wanted to see: success.

It appeared that *The Grammar Key* could be that "happy medium" between traditional and progressive teaching methods of which Connors spoke. *The Grammar Key* does not go into so much detail in the analysis of sentence structure that the student becomes lost in English jargon. It also does not allow the student simply to express himself without analyzing what he has written.

It shouldn't need to be argued that effective grammar skills improve almost anyone's ability to find gainful employment and to achieve a measure of success in life. It could be argued, however, that a good working knowledge of English is more than useful, it is a necessity in the modern world. Therefore, the research questions posed in this

study become the vehicles for determining the value of The Grammar Key to the junior college environment. The answers to those questions are the central issues at hand.

Scope of the Study

The researcher identified a number of studies dealing with the problems of teaching grammar skills to post-secondary students. In all cases the resultant gains from various programs were marginal at best. The Grammar Key addresses many of the problems at their roots. It asks over and over again, "What part does this word play in the sentence?" It was felt that if The Grammar Key proved useful to institutions in two different cities, it also had application throughout the nation.

This study concerned itself with two junior colleges, one in Oklahoma City, Oklahoma, and one in Tulsa, Oklahoma. Based on the findings of a North Central Association Self Study reported by a metropolitan Oklahoma junior college (the junior college that conducted the Self Study denied permission to have its name used in this study), these two junior colleges represent typical metropolitan Oklahoma junior college populations with one exception: the two junior colleges in this study had a larger minority enrollment than the other colleges in the Self Study.

The Self Study findings were reported on eight junior colleges in Oklahoma City and Tulsa and the surrounding areas. These findings included the two junior colleges that

are part of this study.

The compiled average age of students in the Self Study findings was 27.6. The average age of the students in this study was 28. Other student characteristics that were typical of all eight junior colleges were as follows: approximately 65 percent female and 35 percent male student enrollments. Six of the junior colleges surveyed in the Self Study reported approximately 16 percent minority enrollment, while the two junior colleges in this study reported approximately 30 percent minority enrollment. These findings indicated that student characteristics at all eight junior colleges included in the Self Study were similar.

The subjects used in the study were students enrolled in English classes at the two junior colleges used for the experiment. The Grammar Key was offered as an English grammar workshop in the classroom environment.

While, as Ward (1925) said, "Most textbooks were written in a literary atmosphere as different from schoolroom necessities as astronomy is from simple decimals" (p. 17), The Grammar Key was developed in the classroom itself.

Assumptions

The assumptions made in this study include the following:

1. That the two junior colleges in this study are similar to other junior colleges in Oklahoma, and

that the grammar problems these two schools encounter are similar to grammar problems found in other junior colleges in the nation.

2. The effective usage of grammar skills is an important job-related skill in today's world.
3. Analysis of Variance (ANOVA) is an appropriate statistical tool for comparison of methods of delivery and between gain scores within groups, and
4. The Pearson Correlation Coefficient (Pearson r) is an effective tool for comparing and evaluating the companion test to The Grammar Key with the CPAt.

Definition of Terms

The following are definitions of terms used in this study.

CPAt. The CPAt is a comprehensive set of tests developed at the University of Iowa (by the developers of the American College Testing program) which is used for junior college entrance. This study will utilize only the Language Usage portion of the CPAt.

The Grammar Key companion test (TGK). The companion test is the instrument used by the author of The Grammar Key to show gain scores of students undergoing instruction using his method.

CHAPTER II

REVIEW OF LITERATURE

Introduction

A review of the literature relevant to this study is contained in this chapter. The locus of this review is that understanding and focus are desirable and necessary in preparing students to use the English language effectively. The review of literature indicated that there is a need for programs that are compatible with both traditional grammar instruction and progressive language instruction.

The Grammar Key is a method of teaching English grammar that tries to combine the best of the traditional methods with the best of the progressive methods. According to Ward (1925), neither accuracy first or creative expression first is right . . . understanding is the key: "The English-teaching world has always 'directed its telescope toward the stars' and has ignored the facts of illiteracy" (p. 19). Ward says that the following statements were true:

1. It is hard to teach bright students about spelling and verbs.
2. All that can be expected of a bachelor's degree is "reasonably decent spelling and punctuation."

3. Only about one-third of university freshmen could tell the difference between a phrase and a sentence.

Ward was writing in 1925. He was disturbed by the so-called progressive methods of teaching English that were working their way into the system. "Fifty years from now the student of educational history will be puzzled to know what schools thought they were doing in the first quarter of the twentieth century" (p. 25).

Historical Background

The progressive movement in education, including English education, seems to parallel the political progressive movement of the late nineteenth and early twentieth centuries.

Hardly had the twentieth century dawned on the ethnically and racially mixed American people than they were convulsed by a reform movement, the like of which the nation had not seen since the 1840s. The new crusaders, who called themselves 'progressives,' waged war on many evils, notably monopoly, corruption, inefficiency, and social injustice . . . The 'real heart of the movement,' explained one of the progressive reformers, was 'to use the government as an agency of human welfare,' . . . The ground swell of the new reformists wave went far back--to the Greenback Labor party of the 1870s and the Populists of the 1890s . . . (Bailey and Kennedy, 1987, p. 631).

In 1892 the National Education Association recommended that English should be taught to prepare students for college and for life (Stahl, 1965, p. 20-21). During this time investigations were underway to revise grammar instruction.

Stahl (1965) says that between 1820 and 1890 English was finally established as an important part of the study of the humanities. He goes on to say that compared to Greek, Latin and math, English was a comparatively new subject which was not considered worthy of lengthy study in the eighteenth century.

The thread of argument that runs throughout the literature from the progressive side indicates that the progressives believed workers didn't really need to know the rules for grammar, or at least the complete rules, to make a living. They believed it was more important for workers to learn to express themselves in their own ways since participants in many occupations are not required to understand the fine points of English grammar in order to communicate on the job.

Stahl (1965) said, "During the period from 1800 to 1850 formal grammar was the dominant type of language study" (p. 45). From 1850 to 1900 investigations revealed a need, according to Stahl, to revise grammar instruction, which he called the "science of language." Less emphasis was placed on memorization of rules (however, now, over 100 years later, the revision is still underway).

Modern schools of English grammar developed:

1. Traditional Grammarians--strict word analysis.
2. Structural Linguists--value found in the spoken language over the written.

3. Natural Method Advocates--more concerned with teaching students to express themselves than with describing the language. They encouraged reading to students and encouraged them to put on paper what they really thought and felt (Stahl, 1965, p. 59-62).

Stahl (1965) said that in the beginning, English was unpopular because it was inflexible. He indicates that progressive methods made the subject easier to accept and that by the 1960s it was a central field of study in most high schools in the United States. But problems still existed in students' abilities to use their language effectively.

As a rationale for this problem, Stahl says that the first half of the twentieth century was spent getting more students into school. This brought more and more average and below-average students into the classroom, causing the problems that were surfacing in the effective usage of grammar.

By 1911, the National Council of Teachers of English formed in Chicago to study the organization of English studies in high schools to help students prepare for college and for life (Stahl, 1965, p. 23). World War I interfered with the formation of any programs. According to Stahl, "In November 1929, the National Council of Teachers of English appointed a Curriculum Commission to build a course in English from kindergarten through the graduate school."

The next stumbling block to progressive English education was the Great Depression. However, during World War II, according to Stahl (1965), the National Council reorganized English into the following separate areas: English Language Arts, Language Arts for Children, English Language for Secondary Schools, College English, and Preparation of Teachers of English Language Arts. By 1954 virtually every high school in the United States required English for graduation and progressive English education had the foothold it had been trying to establish since 1911.

"By the mid-1950s everyone seemed aware of the 'new science' program" (Shane, 1967, p. 1). And along with new math and new science came new English, called linguistics. According to Shane, by the mid-1960s linguistics changed the way English was taught. It changed the emphasis from grammar to expression, and Warfel (1952) blames this change on the National Council of the Teachers of English who he calls, "a small group of self-called 'new' linguists" (p. 8). He claims that their methods "killed grammar."

Arguments

In his 1952 text, Who Killed Grammar?, Warfel quotes a progressive who was also a colleague, Fries, who said,

The National Council of Teachers of English support the scientific study of the English language, and realizing the importance of the results of that study in freeing our teaching from wasteful and harmful practices, recommends that, in the training of teachers, both prospective and in

service, opportunities be provided to acquaint English teachers with the principles, methods, results, and applications of modern linguistic science (p. 9).

Warfel had this to say about Fries ideas of scientific study:

. . . [T]he scientific student of usage (1) collects all the facts and describes them, (2) subjects these facts to historical analysis, (3) urges teachers to utilize the facts and the methodology employed in gathering facts, and (4) seeks to substitute for the traditional methods of analyzing sentences a new approach. The true scientist (1) gathers facts and names, (2) codifies them and gives names to classes of fact, (3) draws conclusions in terms of norms, and (4) leaves the business of applying the results of his investigations to technologists (p. 9).

Warfel goes on to say "new linguists" assert that "grammar is rule-ridden and that . . . rules are always hateful and [that] books containing rules violate the spirit of progressive education" (p. 10).

Ward (1925) said that some English rules are a bad imitation of Latin grammar but agrees with Warfel that a basic understanding of the rules is necessary. Warfel (1952) said that no one damns chemistry for rules. He says there are rules that are necessary and helpful for everyday life and that grammar is a discipline that has necessary rules. He goes on to say that new linguists falsify the truth of grammar by asserting that English has only two tenses. New linguists believe, he said, that children should cut their own paths in the jungle of usage and by

this write their own rules of grammar. He said this is a means for a child to stumble, not to grow.

Language is a tool like a kitchen stove. Tutelage and experience can go hand in hand. That a child should be encouraged to play with a gas range without awareness of some fundamental rules seems unwise. That a child should play with language without benefit of a few rules seems pedagogically unsound. That child should be dependent on a teacher . . . [t]he fact is students need guidance in language exactly as in chemistry, physics, or sociology . . . (p. 16).

. . . [T]he whole solution to the problem is one which requires a reorientation of the research programs of our scholars and the teaching methods in some of our schools. A strong breed of teachers must arise to do the task. A new set of textbooks may be needed. The problem is capable of solution . . . (p. 16).

A language belongs to an individual, it is true; but he is a member of a joint stock company. His investment determines his profits; his conduct can nullify the investment of others. He can debase the currency. Language is the coin of the realm of thought (p. 70).

Warfel said that new linguists blame traditional methods for the decline in students' abilities to speak and use English. He blames progressive methods for the decline.

On progressive methods in science, Feynman (1983), a Nobel Prize-winning physicist, said in an interview on the television series NOVA,

Because of the success of science, there is a kind of, I think a kind of pseudo science that . . . Social Science is an example of a science which is not a science. They don't do scientific . . . they follow the forms . . . , or you gather data, you do so-and-so and so forth, but they don't get any laws, they haven't found out anything. They haven't got anywhere yet. Maybe someday they will, but it's not very well developed.

But what happens is on an even more mundane level. We get experts on everything that sounds like

they're sort of scientific experts. They're not scientific. They sit at a typewriter and they make up something like, oh, food grown with fertilizer that's organic is better for you than food grown with fertilizer that's inorganic. Maybe true; may not be true, but it hasn't been demonstrated one way or the other. But they'll sit there on the typewriter and make up all this stuff as if it's science and then become an expert on foods, organic foods and so on. There's all kinds of myths and pseudo-science all over the place.

I may be quite wrong; maybe they do know all these things. But I don't think I'm wrong. You see, I have the advantage of having found out how hard it is to get to really know something -- how careful you have to be about checking the experiments, how easy it is to make mistakes and fool yourself. I know what it means to know something. And therefore I can't . . . I see how they get their information and I can't believe they know it. They haven't done the work necessary, haven't done the checks necessary, haven't done the care necessary. I have great suspicion that they don't know . . . and they're intimidating people by it . . . (p. 15).

Chisholm, in his book The New English (1969), said that, "the new English," linguistics, frees students from the drudgery of memorizing ancient "rules" and that students "will enthusiastically embark upon the oldest and best learning of all, discovery" (p. 3). But are the new "linguists" discovering all they should discover? Are the traditionalists?

Sherwin (1969) believed the fundamental disagreement between the traditional and progressive schools of thought was the issue of what grammar should be and do. He said,

Like traditional grammar, linguistics seeks to reveal the way the language is put together, its structure, and the way the language works, its mechanics. Both deal with syntax . . . The fundamental disagreement is over the issue of what grammar, any grammar, should be and do . . .

Traditional grammar is prescriptive and linguistics descriptive. The one formulates rules based on assumptions about what English should be, and it propounds rules for speakers and writers to follow. The other derives principles by which the language operates at a given time and place and in a given cultural environment (pp. 135-136).

Sherwin goes on to say, and in this he agrees with Feynman, that educational research is new, that it is not as well thought out and defined as it is in chemistry or physics. Laboratory conditions are hard to achieve in social sciences. Scientific inquiry is the correct approach, he said, but the difficulty is in applying it to the human condition, "education hasn't done the job it should have" (pp. 188-189).

Ward (1925), who supports the traditionalists, believes they have their fault in the problem: "The case against grammar is stronger [than most grammarians know]" (p. 122). He says that many grammarians are "heathens who worship rules as if they were deities" (p. 122) and "The longer you remain in the temple of grammar, the more you will dread the place" (p. 123).

Ward summed the entire problem when he said, if a student does not know what a sentence is, his skills at composition are crippled and so is his ability to communicate with his fellow men. He also comments about the state of English in 1925 which still may be true now: "What is English? It is a mess. We live in a time when precedent counts for nothing . . . The world we live in has not gone mad about English" (p. 124).

Ward goes on to explain that there are other things in the world, such as science and scientific discoveries which are more exciting than English grammar. He explains that fifty years before (in 1875), science took a back seat to the humanities. What people see ahead of them is much more exciting than English. He says to teach them what they need to know to get started and then to let it go, that there will be plenty of time for literature and writing if students choose it.

Ward said that it takes a lifetime to understand what English is, but there aren't so very many rules that have to be known to begin the journey.

But, in addition to the teaching of English, what does English mean in the world of 1990? Lederer (1989) said,

English is the most widely spoken language in the history of our planet, used in some way by at least one out of every seven human beings around the globe. Half of the world's books are written in English, and the majority of international telephone calls are made in English. English is the language of over sixty percent of the world's radio programs . . . more than seventy percent of international mail is address in English and eighty percent of all computer text is stored in English (p. 11).

English is the language of today's world. Effective usage of the English language is more important now than it ever has been.

The Grammar Key

The Grammar Key makes an important concession to the progressives: it allows students to examine both the

teacher's and their own sentences for content, and it only concerns itself with past and present tenses. This is an important concession. It is one that might anger traditionalists. But, The Grammar Key is so traditional in its method, it is just as likely to upset progressives. Conklin believes that students can communicate most needs and wants knowing and understanding past and present tenses. He allows students to examine parts of their language without having to delve into all the intricate rules of grammar. The Grammar Key gives students enough information to construct logical and workable sentences.

Pulaski, (1974) in her text Step-By-Step Guide to English said,

Many people have a speaking knowledge of the language but do not understand what the basic parts of a sentence are or why certain forms are used. Learning to write correctly also helps you speak correctly. Words are the building blocks of language (p. 5).

Warfel (1952) adds that grammar is the handmaiden of logic and not of expression. He said understanding grammar is a declaration of independence for the individual.

It seemed The Grammar Key met most of the requirements of both the traditionalist and the progressives, but the real question is, "How well does it meet student needs?"

Summary

The review of literature indicated that there are many methods of teaching English to students. The problem is that many programs available to adults are either so simple

as to be insulting or too difficult. The basic programs fall into the following categories:

1. College English composition courses
2. High school equivalency programs
3. Self-help guides
4. So-called adult programs which are, in many cases, too elementary for native speaking adults who have attended schools for many years.
5. So-called simplified fundamental courses which use techniques which may be fairly complicated, and are similar to what didn't work for many students in elementary and high school.

Conklin (1987) said The Grammar Key differs from these programs in several ways. He said it offers students immediate benefits from the first hour of class, it can be used independently or with the help of a teacher, and it does not speak down to adults. Conklin also said the program is short, simple, and uses keys to spur a student's memory. The key to The Grammar Key, he says, is that the basic clues as to what follows what in a sentence are presented in a unique and logical manner.

As simple and useful as The Grammar Key seemed, it had never been validated against other achievement tests. Its companion test had never been validated. This study attempted to test whether the combination of traditional and progressive methods incorporated in The Grammar Key are

effective in teaching English grammar to adults in the junior college environment.

References Not Included as Cited Works

The researcher felt that a list of references on the subject of English would be of great use to instructors who needed to teach grammar, whether or not they were English teachers. Various authors whose works were included in the review of literature indicated that unless grammar is reinforced in other classes, students will fall back into their old patterns. Included in the Bibliography are references to aid those who may be looking for a special method or idea for teaching grammar and writing.

CHAPTER III

METHODOLOGY

Introduction

This chapter includes a discussion of subjects, instrumentation, and procedures used in this study. The research design and the statistical analysis of the data also are described.

The Grammar Key was designed by Conklin (1987), an English teacher in northeastern Oklahoma. It was developed over a number of years in the classroom. The program was intended to help students and instructors identify basic sentence patterns and parts of speech using a "key" provided in the learning packet. Conklin believes that understanding the language patterns is a critical step in understanding grammar.

Conklin agreed to allow research to be performed using his method. He agreed to have his program analyzed in a manner that could lend some validation to his concept and to his instrument for testing that concept. Research in this area would help institutions determine whether The Grammar Key can effectively enhance their English programs.

Description of the Grammar Key

The Grammar Key is a self-paced classroom program. It involves the aid of schematics in grammatical recognition and the labeling of all words in a sentence. Each packet includes the following:

1. A clue reference card
2. Independent practice sheets
3. Answer keys (which may either be left with the packet for individual study or removed by the instructor for classroom instruction). It appeared that independent study would be too difficult for the average or below average student, therefore all packets used for this study had the answer keys removed, as all instruction took place in the classroom environment (students were encouraged to study at home, however).

Conklin (1987) had this to say about his program:

The Grammar Key promotes the instruction of all grammar objectives. It combines mechanics skills with practice drills through the use of a simple schematic and four easy-to-memorize word groups. The aim is to develop awareness of the consistent similarities that characterize English, as many words follow predictable rules. Therefore, a knowledge of these words and rules can help students increase grammar skills.

Designed for students having difficulty, for teachers who are not necessarily English majors, for the teacher who wants alternatives in teaching English grammar, and as a second language program, [The Grammar Key] becomes a unique approach to beginning English grammar, one that builds on the students' will to succeed, and the value the teacher places on instruction.

Designed to provide a starting point for instruction [The Grammar Key] allows you to work at different skill levels for slower, average, and faster achieving students -- but without compromising equality of instruction for all students.

The visual, verbal and auditory reinforcement creates a multi-directed approach into recall and understanding of memory clue groups. Students may combine activities from [The Grammar Key] with any English text or similar instructional material.

The Grammar Key] builds on students' knowledge of the English language and motivates by showing how much they already know. It provides the flexibility needed for teaching and learning according to individual needs -- your needs and those of your student.

Conklin says that our language has rules, but he says his program helps the rules work for the student. Using his key takes some of the guesswork out of grammar. All clues are found in The Grammar Key instructional manual, and they must be committed to memory. The understanding of this key and the memorization of some lists of key words, along with instruction, completes The Grammar Key.

Background on the CPAt (Careers Programs Assessment Test)

The Careers Programs Assessment Test is the assessment exam used by both junior colleges which are part of this study.

The Career Programs Assessment (CPAt) is a testing program designed to measure the entry-level skills of students planning to attend career schools and colleges and other post-secondary institutions offering specific, job-related educational programs (CPAt User's Guide, p.1).

CPAT shows a completion rate of .84 for the Language Usage portion. It is a timed, 15-minute exam. In the CPAT User's Guide (1989), the Language Usage portion indicated a .89 reliability coefficient. Keppel (1982) says that a reliability coefficient of at least .8 is necessary to establish reliability.

The Language Usage test measures basic skills in the areas of punctuation, grammar, sentence structure, capitalization, spelling, and logic and organization. CPAT was normed in 1987 at 18 different career schools and colleges across the nation both in rural and urban areas. The makeup of the sample population when the CPAT was normed in 1987 is found in Table I.

TABLE I
SAMPLE POPULATION WHEN CPAT WAS NORMED IN 1987

Breakdown for Age	
Under 21	50 percent
21 to 30	35 percent
over 30	15 percent
Breakdown for Gender	
Male	30 percent
Female	70 percent
Breakdown for Race	
White	50 percent
Black	30 percent
Other	20 percent

Methodological Considerations

With the main purposes of the research defined, a number of methodological problems had to be considered before the data were collected, to include the following:

1. The scope of the study
2. Subjects
3. Major research design
4. The conduct of the study
5. The hypotheses
6. How the research was analyzed
7. Problems with implementing the program

The Scope of the Study

The purpose of the study was to determine if The Grammar Key was effective in instructing adults in English grammar using the three conditions shown in the schematic of the research design. The Grammar Key was tested in a classroom environment in two Oklahoma junior colleges.

Students were taught The Grammar Key as an internal workshop during English class. Each of three classes at each school constituted a group. There was no effort to randomly assign a student to any particular class. Classes were randomly assigned to a method.

One group at each site was taught by the author of the program, Conklin. The second group was instructed by the use of video tape with a facilitator on hand to answer questions. The third group was instructed by the same selected instructor in both Oklahoma City and Tulsa.

The two instructional sessions (Oklahoma City and Tulsa) lasted for approximately four hours, with the pre-

testing and post-testing scheduled to take place the week before and the week following the instruction. All data were collected within a two-week time frame at each institution.

There were 31 students in the Oklahoma City group, and 35 students in the Tulsa group. Results were compiled to measure the gain scores for the analysis.

Subjects

The subjects for the study were students enrolled in required freshman-level English courses, therefore they were subjects of convenience. Three English classes were selected at each of two Oklahoma junior colleges. The colleges were located in Oklahoma City and Tulsa. At each school the classes were randomly assigned to one of three teaching methods.

The three English classes at each school were selected for their expected enrollment and their similar start times. The classes began between 8:50 A.M. and 12:50 P.M. Only day classes were used for this study. Each class had an expected enrollment of 20 to 30 students. Arrangements for the research were made in April, 1990, and the research was conducted in June, 1990.

There were 81 subjects who began with the pre-test. The description of the population as they sat for pre-testing are found in Table II.

TABLE II

CHARACTERISTICS OF THE GRAMMAR KEY SUBJECTS FOR
OKLAHOMA CITY AND TULSA

Oklahoma City	Tulsa
Average Age: 28	Average Age: 28
Breakdown for Gender	
Male: 10	Male: 16
Female: 21	Female: 34
Breakdown for Race	
White: 22	White: 37
Black: 7	Black: 10
Other: 2	Other: 3

Of the 81 subjects, 66 completed the entire program. Thirty-one of the subjects were in Oklahoma City and 35 of them were in Tulsa. Because these subjects were identified only by the last four digits of their student identification numbers, there was no means of determining the race, age, or gender of those who did not complete the program.

Major Research Designs

The major research designs used in this study were two-factor Analyses of Variance (ANOVA) and three-factor mixed Analyses of Variance (ANOVA). (See Figure 1) These methodological designs are widely used and very sensitive to real differences that may exist between groups. The three-

factor mixed ANOVA design, according to Keppel (1982), is "extremely popular in the behavioral sciences, and for good reason: [it] examines[s] the affects of several independent variables manipulated simultaneously and offer[s] greater sensitivity than other designs" (p. 409).

All analysis was evaluated at the .05 level of significance. The evaluation of the instrument, one component of this study, was conducted using the Pearson r. There was a separate set of hypotheses developed for assessing the companion test of The Grammar Key. (See hypotheses) The evaluation of this instrument was conducted to provide psychometric information on the properties of the test.

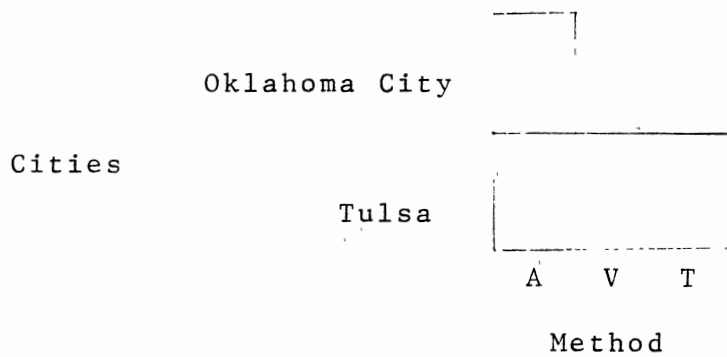
As necessary, the results from the analyses were followed by appropriate post hoc tests, planned comparisons and interaction comparisons.

Procedure

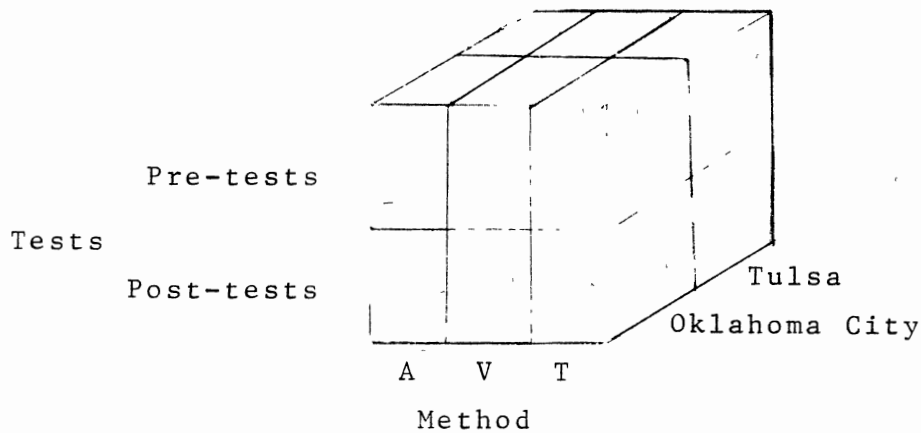
The procedure for conducting The Grammar Key instruction is shown in Tables III and IV. Students were pre-tested during the last class period of the week, instructed during class periods of the following week, and then were scheduled for post-testing during the first class period of the following week. Only students who completed both pre-testing and post-testing were included in this study.

Students were allowed to keep all materials given to them during instruction to aid them in their future school

Two-Factor Design for H_{o1} and H_{o2}



Three-Factor Mixed Design for H_{o3} and H_{o4}



Legend for Figure 1:

A = Author

V = Video

T = Teacher

Figure 1. Analyses of Variance (ANOVA) Designs Used in Study.

work however, they were not allowed to use any additional aids during either the pre-testing or the post-testing.

The Grammar Key's companion test, the internal evaluative instrument, had not been validated in any way. It was decided that not only must the teaching methods be analyzed, but also the instrument used to determine gain scores for The Grammar Key. The companion test to The Grammar Key was compared with the CPAT using Pearson r .

The Conduct of the Study

Students were identified for data collection purposes by the last four digits of the student identification numbers. The names of the individual students were not recorded. The last four digits of the student identification numbers did not repeat. Using those numbers helped ensure the confidentiality of the students and also ensured that students remembered their numbers from one class meeting to the next. All information was kept confidential and was represented in the study only as necessary for the analysis of the data for presentation in this document.

The research involved an in-class grammar workshop during the month of June, 1990, at two locations, one in Oklahoma City, Oklahoma, and the other in Tulsa, Oklahoma. Approximately six class periods were utilized. A class period, for the purposes of this paper, was one hour. The following description of time usage was followed at both

schools. Session one consisted of two pre-tests, one for the CPAt and the other for The Grammar Key. The second, third, fourth, and fifth class periods were utilized for instructional purposes. The sixth class period consisted of post-testing for both the CPAt and The Grammar Key.

The instruction involved three English classes at each institution. At each institution two of the three classes were taught by English instructors. The third class at each institution utilized a video tape demonstrating The Grammar Key. The classes involving the video tape were monitored by a facilitator who was familiar with The Grammar Key and capable of answering students' questions about the method. Tables III and IV show the proposed schedule of events for both junior colleges involved in the study.

TABLE III

PLANNED AGENDA FOR RESEARCH COLLECTION
AND INSTRUCTION FOR THE GRAMMAR KEY:
JUNIOR COLLEGE, OKLAHOMA CITY

May 30, 1990 (Wednesday), class period one (approximately 45 minutes): 12:50-1:35 p.m., Group 2 pre-test.*

May 31, 1990 (Thursday), class period one (approximately 45 minutes): 10:50-11:35 a.m., Group 1 pre-test.*

May 31, 1990 (Thursday), class period one (approximately 45 minutes): 12:50-1:35 p.m., Group 3 pre-test.*

June 4 and 6, 1990 (Monday, Wednesday), class periods two, three, four, and five (approximately four hours): 12:50-2:40 p.m., Group 2 instruction.

June 5 and 7, 1990 (Tuesday, Thursday), class period two, three, four, and five (approximately four hours): 10:50 a.m.-12:40 p.m., Group 1 instruction.

June 5 and 7, 1990 (Tuesday, Thursday), class periods two, three, four, and five (approximately four hours): 12:50-2:40 p.m., Group 3 instruction.

June 11, 1990 (Monday), class period six (approximately 45 minutes): 12:50-1:35 p.m., Group 2 post-test.

June 12, 1990 (Tuesday) class period six (approximately 45 minutes): 10:50-11:35 a.m., Group 1 post-test.

June 12, 1990 (Tuesday) class period six (approximately 45 minutes): 12:50-1:35 p.m., Group 2 post-test.

*Note: Group 2 is the video group. Group one is always taught by the author of The Grammar Key as the instructor. Group two is always taught by the selected English instructor.

TABLE IV

PLANNED AGENDA FOR RESEARCH COLLECTION
AND INSTRUCTION FOR THE GRAMMAR KEY:
JUNIOR COLLEGE, TULSA, OKLAHOMA

June 13, 1990 (Wednesday), class period one (approximately 45 minutes): 8:50-9:35 a.m., Group 3 pre-test.*

June 13, 1990 (Wednesday), class period one (approximately 45 minutes): 10:50-11:35 a.m., Group 2 pre-test.*

June 14, 1990 (Thursday), class period one (approximately 45 minutes): 8:50 -9:35 a.m., Group one pre-test.*

June 18 and 20, 1990 (Monday, Wednesday), class period two, three, four and five (approximately 3.5 hours): 8:50-10:30 a.m., Group 3 instruction.

June 18 and 20, 1990 (Monday, Wednesday), class periods two, three, four and five (approximately 3.5 hours): 10:50 a.m. - 12:30 p.m., Group 2 instruction.

June 19 and 21, 1990 (Tuesday, Thursday), class periods two, three, four, and five (approximately 3.5 hours): 8:50-10:30 a.m., Group 1 instruction.

June 25, 1990 (Monday), class period six (approximately 45 minutes): 8:50-9:35 a.m., Group 3 post-test.

June 25, 1990 (Monday), class period six (approximately 45 minutes): 10:50-11:35 a.m., Group 2 post-test.

June 26, 1990 (Tuesday), class period six (approximately 45 minutes): 8:50-9:35 a.m., Group 1 post-test.

*Note: Group 2 is the video group. Group one is always taught by the author of The Grammar Key as the instructor. Group two is always taught by the selected English instructor.

The Hypotheses

Hypotheses for Methods:

- H_{01} There is no significant difference between the three teaching methods using CPAT gain scores in either Oklahoma City or Tulsa.
- H_{02} There is no significant difference between the three teaching methods using The Grammar Key gain scores in either Oklahoma City or Tulsa.
- H_{03} There is no significant difference between pre-test and post-test raw scores across method on the CPAT in either Oklahoma City or Tulsa.
- H_{04} There is no significant difference between pre-test and post-test raw scores across method on The Grammar Key in either Oklahoma City or Tulsa.

Hypotheses for Instrument:

- H_{05} There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language usage portion of the CPAT and the companion test of The Grammar Key for the author treatment group.
- H_{06} There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key for the video treatment group.
- H_{07} There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key for the selected teacher treatment group.

How Data Were Analyzed

All information was collected by the researcher and his assistant. All data were analyzed by the researcher. Data were analyzed using the Guyl Statpak (1983) for ANOVA and for the Pearson r , and the OSU Pac (1989) for the post hoc analyses. Statistical tables used for evaluating data came from Witte (1985).

Problems with Implementing the Program

There were very few problems in implementing the program. Both junior colleges were very willing to see English grammar research performed on their campuses. The author of The Grammar Key was very helpful in providing materials needed to teach the method. Both assistants to the researcher had degrees in English, and both were excited to be involved in a research project.

Students' tardiness in coming to class as well as some absences were the major problems with implementing the program. It was impossible to know how much benefit was lost due to tardiness, both from the viewpoint of the late student and from the viewpoint of the students already in class who were disturbed, no matter how slightly by the late entry. In Tulsa, the sixth class period was cut from the schedule due to the junior college's time constraints which caused the post-tests to be given immediately after the fifth class period rather than at the scheduled time.

CHAPTER IV

RESULTS

Introduction

The results of the statistical analyses along with an interpretation of the data collected are presented in this chapter. A summary of the results is provided at the conclusion of this chapter.

Analysis of Hypotheses

The descriptive statistics conducted in this study will be presented in tabular, graphical, and textual form throughout this chapter as the data relate to the hypotheses. The statistical tests of all hypotheses are also presented. Information by hypothesis will be provided in the following order: design, post hoc, and description.

Hypothesis 1

H_{01} : There is no significant difference between the three teaching methods using the CPAT gain scores in either Oklahoma City or Tulsa.

An initial analysis of the first hypothesis using a two-factor Analysis of Variance (ANOVA), with subjects nested in both teaching method and city, indicated no

significant interaction nor difference in gain scores between the three teaching methods or the two cities using the CPAT. (See Table V) Additional evidence of this finding is inserted in Table VI, Descriptive Statistics on CPAT (by method). As noted there, although the range of scores was quite different, their means are close, the standard deviation is approximately the same, and there was not much gain. These data were further explored (See Tables VII, VIII, and IX) by teaching method and city. Once again, it can be seen from these tables that mean gains by method were small, as well as the mean gains by city.

TABLE V
ANOVA SUMMARY TABLE FOR CPAT GAIN SCORES

Source	SS	Df	MS	F
A. Method	1.434753	2	.7173767	.004538 NS
B. City	.3319397	1	.3319397	.002100 NS
A x B	38.44669	2	19.22334	1.216184 NS

$F(2,60) = 3.25 (.05)$

TABLE VI
DESCRIPTIVE STATISTICS FOR CPAT (ALL SUBJECTS)

	n	Mean	Standard Deviation	Range
CPAt-Pre	66	43.77	8.65	2 to 56
CPAt-Post	66	45.80	8.53	5 to 58
CPAt-Gain	66	2.03	3.88	-5 to 13

TABLE VII
DESCRIPTIVE STATISTICS ON CPAT (BY METHOD)

	n	Mean	Standard Deviation	Range
CPAt-Pre				
Author	15	38.80	12.00	2 to 56
Video	20	43.50	6.95	25 to 53
Teacher	31	46.35	6.29	32 to 56
CPAt-Post				
Author	15	41.27	12.63	5 to 58
Video	20	45.60	7.08	28 to 57
Teacher	31	48.13	5.50	36 to 56
CPAt-Gain				
Author	15	2.47	4.70	-5 to 13
Video	20	2.10	3.32	-4 to 10
Teacher	31	1.77	3.75	-4 to 11

TABLE VIII
DESCRIPTIVE STATISTICS FOR THE CPAT (OKLAHOMA CITY)

Oklahoma City	n	Mean	Standard Deviation	Range
CPAt-Pre	31	43.71	11.03	2 to 56
CPAt-Post	31	45.48	10.46	5 to 58
CPAt-Gain	31	1.77	4.01	-5 to 13

TABLE IX
DESCRIPTIVE STATISTICS FOR THE CPAT (TULSA)

Tulsa	n	Mean	Standard Deviation	Range
CPAt-Pre	35	43.83	4.76	32 to 56
CPAt-Post	35	46.09	6.34	31 to 57
CPAt-Gain	35	2.26	3.74	-4 to 10

Hypothesis 2

H_{o_2} : There is no significant difference between the three teaching methods using The Grammar Key gain scores in either Oklahoma City or Tulsa.

An initial analysis of Hypothesis 2 using a two-factor ANOVA indicated that although there was a non-significant interaction term, there was a statistically significant difference between the gain scores in Oklahoma City and

Tulsa (See Table X), but there was no significant difference between teaching methods.

TABLE X
ANOVA SUMMARY TABLE FOR TGK GAIN SCORES

Source	SS	Df	MS	F
A. Method	577.125	2	288.5625	.8119715 NS
B. City	3695.594	1	3695.594	10.39885*
A x B	1.617188	2	.8085938	.0022752 NS
S/A x B	21323.1	60	355.3851	

*F (1,60) = 4.00 (.05)

No formal post hoc was conducted to follow up the statistically significant finding because only two levels were involved. The data were interpreted directly from the means for city:

Oklahoma City mean: 29.84762

Tulsa mean: 46.18522

It is evident that the group in Tulsa performed at a higher level than the group in Oklahoma City. Additional evidence of this finding is inserted in Table XI, Descriptive Statistics for The Grammar Key (all subjects). As noted there, a gain of from 3 to 91 points in the scores and a mean gain of 38.86 was realized. Please note that some of The Grammar Key means in the tables are listed in negative numbers which

indicate the directionality of the scale. The Grammar Key is graded by points missed while the CPAt is graded by items marked correctly. For example, the means on Tables XI, XII, XIII, and XIV for pre-testing and post-testing show negative numbers, however, the gain is positive.

TABLE XI
DESCRIPTIVE STATISTICS FOR THE GRAMMAR KEY
(ALL SUBJECTS)

	n	Mean	Standard Deviation	Range
TGK-Pre	66	-93.74	28.87	-143 to -10
TGK-Post	66	-55.30	29.75	-120 to -5
TGK-Gain	66	38.86	19.85	3 to 91

TABLE XII
DESCRIPTIVE STATISTICS ON THE GRAMMAR KEY (BY METHOD)

	n	Mean	Standard Deviation	Range
TGK-Pre				
Author	15	-101.13	35.50	-134 to -27
Video	20	-95.65	25.14	-127 to -34
Teacher	31	-88.94	26.58	-135 to -10
TGK-Post				
Author	15	-64.67	32.10	-115 to -8
Video	20	-60.25	27.73	-120 to -15
Teacher	31	-47.58	27.80	-104 to -5
TGK-Gain				
Author	15	36.87	21.04	15 to 91
Video	20	35.90	17.01	3 to 65
Teacher	31	41.74	20.55	5 to 79

TABLE XIII
DESCRIPTIVE STATISTICS FOR THE GRAMMAR KEY
(OKLAHOMA CITY)

Oklahoma City	n	Mean	Standard Deviation	Range
TKG-Pre	31	-97.16	29.19	-134 to -27
TKG-Post	31	-67.26	31.43	-120 to -8
TKG-Gain	31	30.61	17.44	3 to 59

TABLE XIV
DESCRIPTIVE STATISTICS FOR THE GRAMMAR KEY (TULSA)

Tulsa	n	Mean	Standard Deviation	Range
TGK-Pre	35	-90.71	28.25	-132 to -10
TGK-Post	35	-44.71	23.57	-90 to -5
TGK-Gain	35	46.17	18.98	5 to 91

Hypothesis 3

H_0 : There is no significant difference between pre-test and post-test raw scores across method on the CPAt in either Oklahoma City or Tulsa.

Hypothesis 3 was analyzed using a three-factor mixed ANOVA with subjects nested in teaching methods and city and crossed with test administration. While this hypothesis was not specifically testing for method, it did uncover a significant difference that impacted Hypothesis 1. There was also a significant difference between pre-testing and post-test scores for the CPAt. Since there was only a single degree of freedom for "C" (tests), it was possible to interpret a difference directly from the source table. (See Table XV) This analysis indicated that none of the interaction terms was statistically significant.

TABLE XV
ANOVA SUMMARY TABLE FOR CPAT

Source	SS	Df	MS	F
A. Method	1125.012	2	562.5059	4.193518*
B. City	9.829739	1	9.829739	.007328135 NS
C. Tests	100.5824	1	100.5824	12.72734**
A x B	142.8893	2	71.44475	.5326253 NS
A x C	.7571564	2	.3785782	.004790392 NS
B x C	.175766	1	.175766	.0222408 NS
A x B x C	19.1863	2	9.593148	1.213882 NS
S/A x B	8048.22	60	134.137	
C x S/A x B	474.1719	60	7.962865	

*F (2,60) = 3.15 (.05)

**F (1,60) = 4.00 (.05) p. < .001

The main effect relating to the pre-testing and post-testing on the CPAT indicated that there was a significant difference for "A" (Method).

A post hoc analysis using Planned Comparisons (Keppel, 1982) (See Table XVI) indicated that there was a significant difference between the author method and the selected teacher method.

TABLE XVI
PLANNED COMPARISONS

Comparison	Difference	MS	F.
1. A vs. V	-4.630001	235.806	1.757949
2. A vs. T	-7.760002	662.394	4.93819*
3. V vs. T	-3.130001	107.766	.8034023

*F = 3.15 (.05)

Legend for Table XVI

A = Author of The Grammar Key

V = Video

T = Teacher

Hypothesis 4

H_{04} : There is no significant difference between pre- and post-test raw scores across method on The Grammar Key in either Oklahoma City or Tulsa.

The analysis of Hypothesis 4 using a three-factor mixed ANOVA shows that there was a main effect for "C" (test), but it cannot be interpreted because of the interaction at B X C. (See Table XVII). While there was no main effect for method, there was an interaction at Method X City (A X B). (See Table XVII). A post hoc of A X B using Interaction Comparisons (Keppel, 1982) showed the greatest difference between classes conducted by the author of The Grammar Key

and classes conducted by the teacher. (See Table XVIII and Figure 2)

TABLE XVII

ANOVA SUMMARY TABLE FOR TGK

Source	SS	Df	MS	F
A. Method	4725.469	2	2362.734	1.76568 NS
B. City	1755.021	1	1755.021	1.311534 NS
C. Tests	39040.32	1	39040.32	281.0349*
A x B	9256.828	2	4628.414	3.458832**
A x C	318.9297	2	159.4649	.943099 NS
B x C	2009.754	1	2009.754	11.89369*
A x B x C	.3828125	2	.1914063	.001132738 NS
S/A x B	80288.62	60	1338.144	
C x S/A x B	10138.59	60	168.9766	

*F (1,60) = 4.00 (.05) p. < .001

**F (2,60) = 3.15 (.05)

TABLE XVIII
INTERACTION COMPARISONS

Comparison	Df	MS	F
A vs. V	1	3746.657	2.79989 NS
A vs. T	1	10891.38	8.1139167*
V vs. T	1	1862.08	1.39154 NS

*F (1,60) = 4.00 (.05) p. < .01

Legend for Table XVIII

A = Author of The Grammar Key

T = Teacher

V = Video

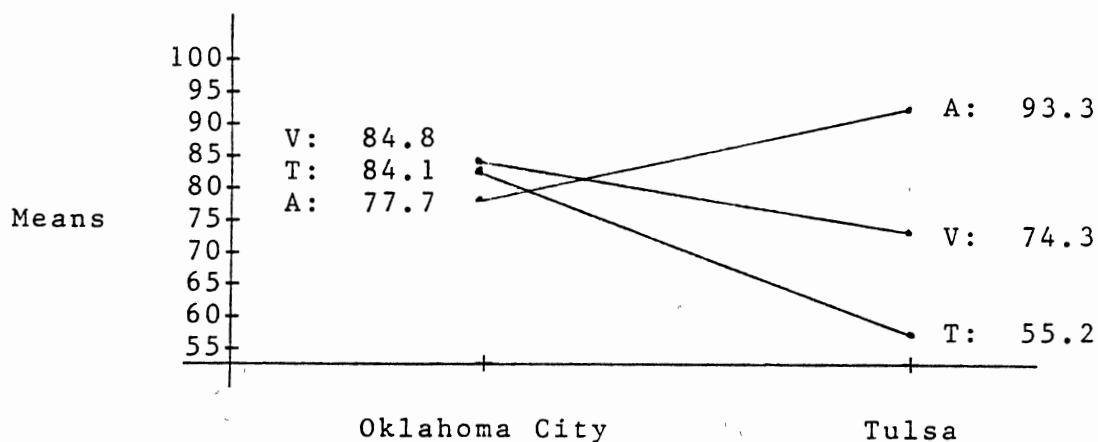


Figure 2. Graph of Interaction Means of Method-City for The Grammar Key.

Legend for Figure 2

A = Author of The Grammar Key

V = Video

T = Teacher

(Note: a mean of 55.2 for the purpose of this graph is a significantly better score than 93.3)

Both Table XVIII and Figure 2 showed the difference between the classes taught by the author of The Grammar Key and the classes taught by the selected teacher.

Hypotheses 5, 6, and 7

H_{05} : There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key for the author treatment group.

H_{06} : There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key for the video treatment group.

H_{07} : There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key for the selected teacher treatment group.

Hypotheses 5, 6, and 7 were tested using the Pearson r (as shown in Table XIX). This table indicates that only non-significant relationships existed between the CPAT and The Grammar Key pre-tests in the video teaching method. Although the remaining relationships reached statistical significance, it should be noted that these relationships were weak at best (a range of r^2 from .12 to .26). These relationships only accounted for from one to seven percent of the variability.

TABLE XIX
MATRIX OF PEARSON CORRELATIONS BETWEEN
CPAT AND THE GRAMMAR KEY (TKG)

	Pre-Tests	Post-Tests
Author	.469*	.512*
Video	.246 NS	.352*
Teacher	.345*	.383*

*.05 = .250, p < .01 = .323

Legend for Table XIX

Author relates to H_{05}

Video relates to H_{06}

Teacher relates to H_{07}

Table XIX provides the result of the correlation analysis, and as noted there, there was virtually no relationship between the two tests.

Limitations

As in many freshman classes at the junior college level, many students who enrolled did not actually sit for the class, but by that time the classes had already been selected and arrangements had been made for offering The Grammar Key instruction.

Those students that dropped after the class began, but before The Grammar Key instruction, left for a variety of unrelated reasons: illness, pregnancy, transportation

problems, and child-care difficulties. Those who started The Grammar Key instruction but did not take the post-test apparently failed to attend class for a variety of reasons unrelated to the instructional methods involved. An informal poll showed they had job conflicts, they over slept or they had "personal problems." However, there were 66 subjects who attended the instruction and completed both the pre-testing and post-testing.

There was a small number of subjects in some cells, therefore the findings are tentative. In some treatment combinations there were less than ten subjects. Each class that was part of the study was selected based on the time period in which it occurred and the expected enrollment.

Summary

A summary of the findings can probably best be described in histogram form. (See Figure 3)

A scale has been added to show where the junior college students who took The Grammar Key instruction fell in relationship to the national mean average when the CPAT test was normed in 1987 (Careers Programs Assessment User's Guide, 1989). The CPAT norm in Figure 3 relates only to the Language Usage portion of the CPAT. The students' scores were much lower than the national average, however, it is possible to see in the graph that some gain was made. The main problem may be that the students were just too far below

the national average to gain much knowledge after receiving only short-term instruction. CPAt Pre-tests and CPAt Post-tests sections of Figure 3 lend support to the case that both populations were similar.

A similar strategy was used to deal with The Grammar Key scores. The scores were changed into percentages for ease in graphing (See Figure 4). This histogram showed gains were made on The Grammar Key scores.

The results of correlational analysis reveal that the CPAt and The Grammar Key instruments had very little in common even though they were both designed to test basically English skills. It appeared that The Grammar Key is the harder test of ability.

In summary, the results of this study were presented in this chapter which included the statistical analyses as well as interpretation of the data collected. Two-factor ANOVA was used to analyze H_{01} and H_{02} . However, an analysis of H_{03} using a three-factor mixed ANOVA uncovered a significant difference for method.

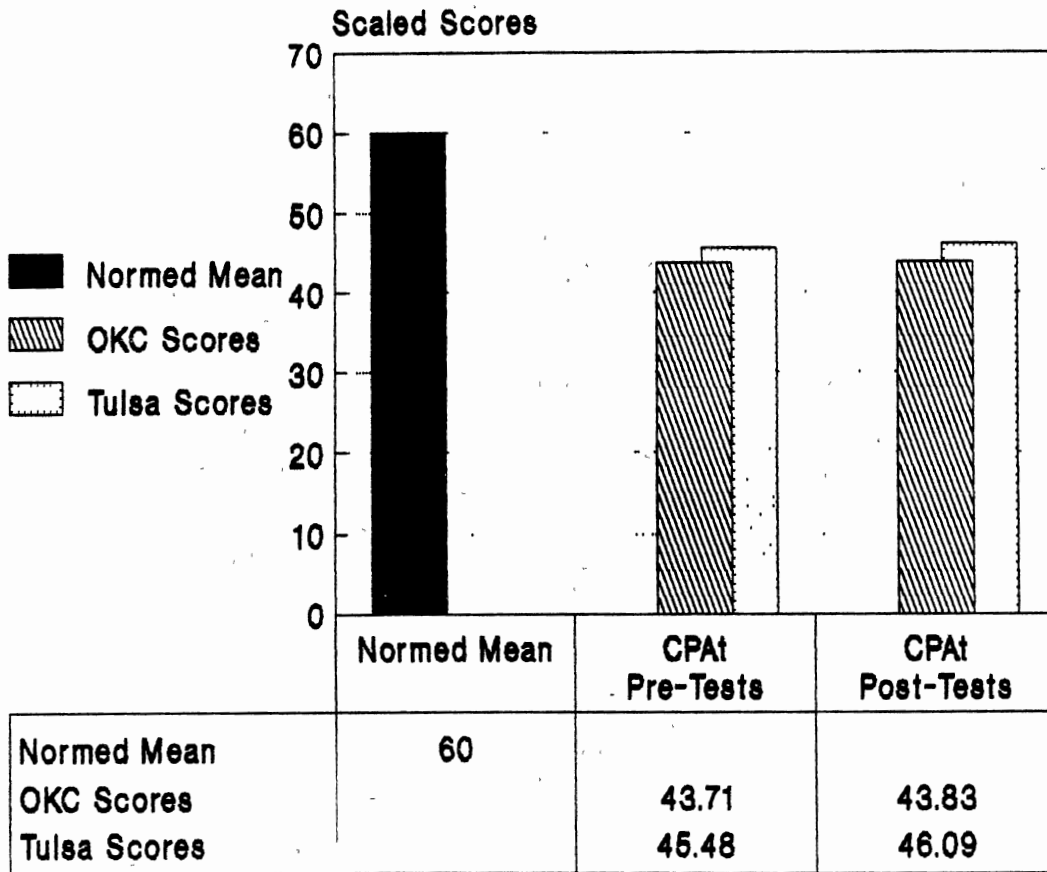


Figure 3. CPAt Findings Compared to National Norm. (The means represented in the graph were obtained from Table VIII and IX).

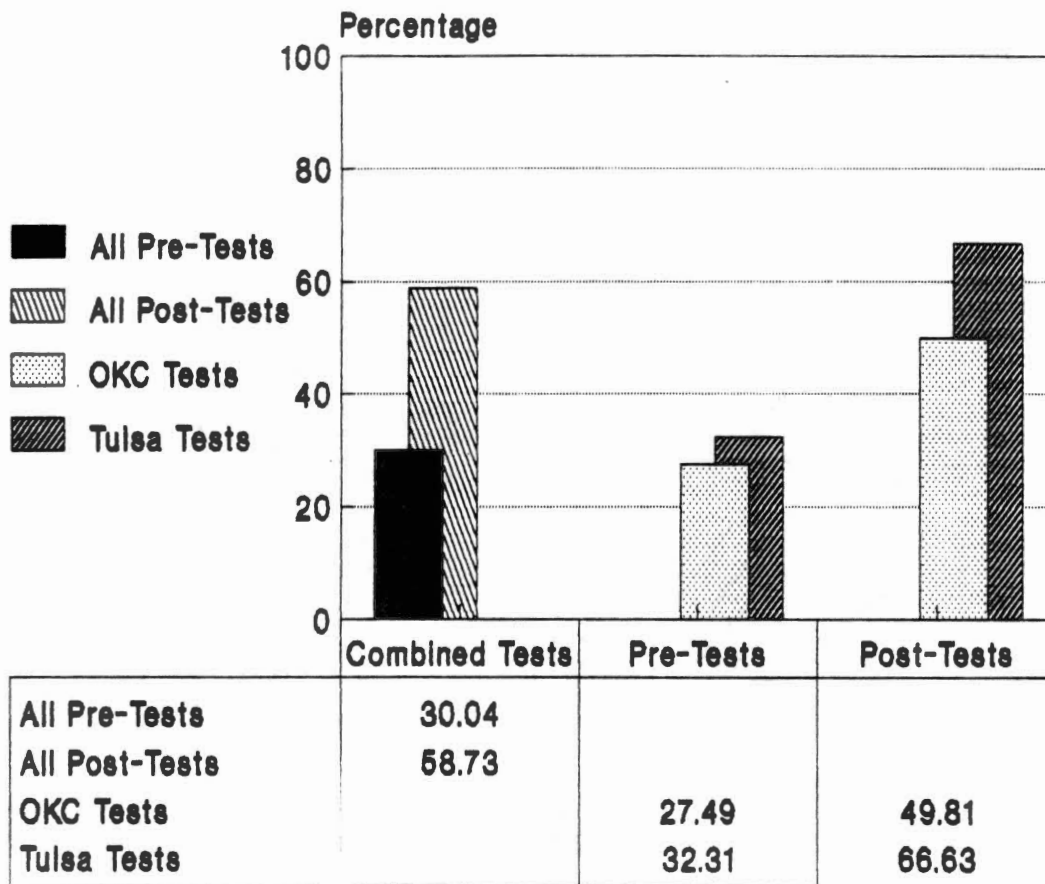


Figure 4. The Grammar Key (TGK) Findings (by percentage).

The three-factor ANOVA design used to analyze H_{o_3} and H_{o_4} showed that students did perform better on the post-test for both tests. Also, it showed that those who performed better on the pre-test also performed better on the post-test.

Hypothesis 5, 6, and 7 were analyzed using Pearson r . The results indicate no real relationship between the two tested instruments. Although there were statistically

significant relationships between the variables of interest, there was very little practical significance in these relationships.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was to determine whether instruction in English using The Grammar Key could indicate learning by influencing CPAT test scores and by answering the major research questions identified in this study:

1. Can the grammar skills taught in The Grammar Key be understood in each of three conditions?
2. Can the learned skills be applied?
3. Can the acquired skills be measured?
4. Can the companion test for The Grammar Key be validated?

This study involved two junior colleges, one in Oklahoma City, Oklahoma, and the other in Tulsa, Oklahoma. The students who were given instruction in The Grammar Key self-selected their English classes, but the assignment of teaching method for the classes was made randomly.

The subjects for this study were 66 junior college students who attended classes with start times between 8:50 A.M. and 12:50 P.M. These start times were separated by four hours. Only three classes at each junior college met this criteria. Originally all of the classes had between 20

and 30 students enrolled. Because two of the cells ended up having less than ten subjects, the results of this study are tentative.

The seven hypotheses generated for this study were as follows:

H_{o_1} : There is no significant difference between the three teaching methods using CPAT gain scores in either Oklahoma City or Tulsa.

H_{o_2} : There is no significant difference between the three teaching methods using The Grammar Key gain scores in either Oklahoma City or Tulsa.

H_{o_3} : There is no significant difference between pre-test and post-test raw scores across method on the CPAT in either Oklahoma City or Tulsa.

H_{o_4} : There is no significant difference between pre-test and post-test raw scores across method on The Grammar Key in either Oklahoma City or Tulsa.

H_{o_5} : There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key for the author treatment group.

H_{o_6} : There is no significant relationship between the pre-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAT and the companion test of The Grammar Key for the video treatment group.

H_{07} : There is no significant relationship between the pre-tests using the Language Usage portion of the CPAt and the companion test of The Grammar Key and the post-tests using the Language Usage portion of the CPAt and the companion test of The Grammar Key for the selected teacher treatment group.

Analyses of Variance (ANOVA) with an alpha level of .05 were used for the statistical analysis of the data. Statistically significant differences were found for the first four hypotheses. The usage of The Grammar Key did result in significant difference in regard to student gain scores between pre-tests and post-tests. For the last three hypotheses, no significant relationship was found between the two instruments. Although the two instruments basically test for the same thing, there is apparently very little relationship between the two instruments.

A summary of each hypothesis follows:

Hypothesis 1:

Using a Two-Factor Analysis of Variance (ANOVA) design, no significant interaction nor difference in gain scores was indicated between the two cities using the CPAt exam. No post hoc was conducted because there were no statistically significant differences between either the methods or the cities. However, Hypothesis 3, using a three-factor mixed ANOVA, a more sensitive design, did uncover a significant

difference for method on the CPAt, therefore, Hypothesis 1 is not retained.

Hypothesis 2:

Using a Two-Factor Analysis of Variance (ANOVA) design, there was a statistically significant difference between gain scores in Oklahoma City and Tulsa. The group in Tulsa performed at a higher level than did the group in Oklahoma City. Several factors may have been involved.

1. The author of The Grammar Key was not accustomed to dealing with adult students and the instruction in Oklahoma City came before instruction in Tulsa. He may have been more comfortable with the adult students in the Tulsa group because by then he was experienced with dealing with adult students. This factor may reflect Ward's (1925) opinion that it is even hard to teach spelling and grammar to bright students.
2. The selected teacher was experienced in dealing with adult students, however she was not that familiar with The Grammar Key, and it may be supposed that she was more comfortable with the material by the time she worked with the Tulsa group.

In interpreting these data, it was noted that a graph of the means (See Figure 5) lent support to the case that some change may have taken place. It can be seen on graph that the selected teacher attained higher gain scores with

her students than did the author of The Grammar Key or the video instruction for both the CPAt and The Grammar Key. Improvement for The Grammar Key should be visualized as negative numbers. For example, the closer The Grammar Key score is to zero the better. Since all The Grammar Key scores were negative (i.e., the same direction), it was possible to plot them on the same scale as the CPAt. The lower a_2 , v_2 , and t_3 scores indicate improvement. It should be noted that the graph also indicated the groups that performed at a higher level on the pre-tests also performed at a higher level on the post-tests. This is indicated across the board for all tests on Figure 5.

In addition, because the video gain scores were not significant in either analysis for hypothesis 1 or hypothesis 2, support may be lent to the case that the two populations were similar. In all the analyses the video portion was not a significant factor. The video may not have been a factor because it was not a professionally produced commercial-quality video. Also, the video was incapable of reacting to students. It could neither improve nor reduce the quality of its instruction. It could not know where students might have problems. Also, because the video teacher could not respond to students' questions, he may have made English seem inflexible. As Stahl (1965) indicates (See page 11), inflexibility makes the study of English unpopular with students. Both the teacher and the author of The Grammar Key had the advantage of seeing how their students

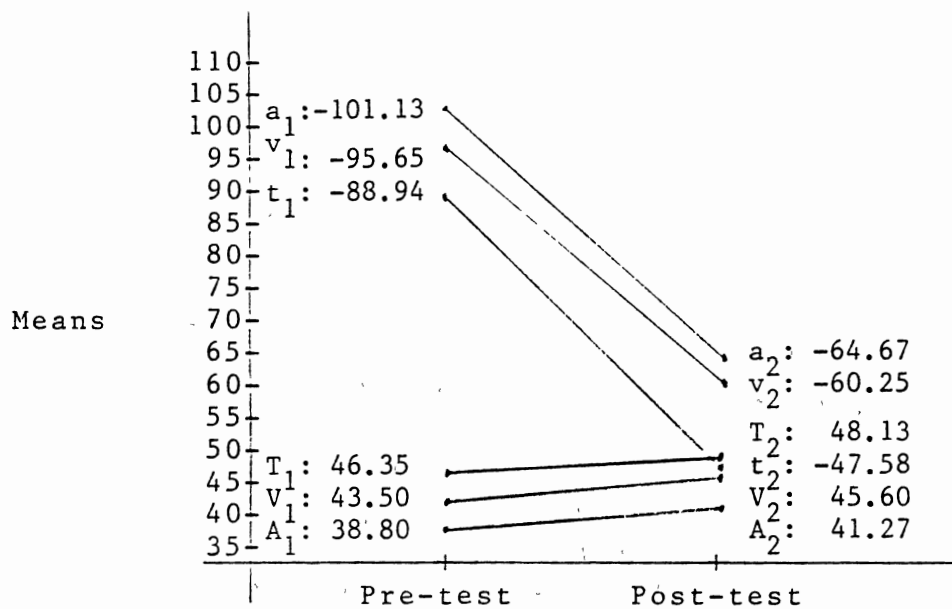


Figure 5. Graph of Means by Method and by Pre-Test and Post-Test.

Legend For Figure 5

CPAt:

A_1 = Author CPAt Pre-Test

A_2 = Author CPAt Post-Test

V_1 = Video CPAt Pre-Test

V_2 = Video CPAt Post-Test

T_1 = Teacher CPAt Pre-Test

T_2 = Teacher CPAt Post-Test

The Grammar Key (TGK):

a_1 = Author TGK Pre-Test

a_2 = Author TGK Post-Test

v_1 = Video TGK Pre-Test

v_2 = Video TGK Post-Test

t_1 = Teacher TGK Pre-Test

t_2 = Teacher TGK Post-Test

Note: A_2 , V_2 , and T_2 represent gain since CPAt Pre-Test.
 a_2 , v_2 , and t_2 represent gain since TGK Pre-Test.

reacted. Also, the author of The Grammar Key and the teacher, as real people, might have been more enjoyable and interesting to the students or even more foreboding. Further, the author of The Grammar Key and the teacher could have asked students questions and responded to them, but the video did not have that capability.

The two-factor design showed no significant difference between teaching methods for The Grammar Key; however, because there was a difference between gain scores in Oklahoma City and Tulsa, Hypothesis 2 is not retained.

Hypothesis 3:

This hypothesis was analyzed using a three-factor mixed Analysis of Variance (ANOVA) and it uncovered a significant difference between pre-test and post-test gain scores for the CPAT. None of the interaction terms were significant.

There was also a main effect relating to pre-test and post-testing for method. A post hoc analysis using planned comparisons indicated a significant difference between the author-teaching method and the selected-teacher method. This difference may be explained by the fact that Conklin, the author of The Grammar Key, was not used to dealing with adult students, whereas the selected teacher was. Also, Conklin had a mental instructional script that he followed while the selected teacher felt free to react with the students in her own way. Hypothesis 3 is not retained.

Hypothesis 4:

This hypothesis was analyzed using a three-factor mixed Analysis of Variance (ANOVA) design. This design, while detecting no significant main effect for method, indicated a significant difference between method and city. A post hoc analysis showed the greatest difference between classes taught by the author of The Grammar Key and the selected teacher for The Grammar Key in Tulsa. Again, this may be explained by The Grammar Key author's lack of familiarity in dealing with adult students and by the selected teacher's growing familiarity with The Grammar Key. The comparison of Author vs. Teacher in Figure 2 showed that the video method falls between the author-taught group and the selected teacher-taught group. In addition, it did show, however, that the students in the video-taught class may not have related well to the teacher in the video and that possibly they did not learn as well because they did not have an interactive teacher.

Once again, the failure of the video method to be significantly different from either the author method or the selected teacher method lends support to the case that the populations between the two groups (Oklahoma City and Tulsa) were similar. Hypothesis 4 is not retained.

Hypotheses 5, 6, and 7:

These hypotheses were tested using the Pearson r (See Table XVII) There was no statistically significant rela-

tionship for the video pre-test. While there was a statistically significant relationship at the other five variables of interest, they only accounted for from one to seven percent of the variability. Ninety-three to 97 percent of the cause of variability is unknown.

Figure 6, using the mean data from Tables VII and XII, showed that there was virtually no relationship between the two instruments. The analyses further showed that the interaction was ordinal and could not be interpreted except to say that The Grammar Key results are reported in higher (unscaled) scores than the CPAT. Hypotheses 5, 6, and 7 are retained.

Conclusions

Based on the findings of this study, the following conclusions are offered:

1. The results of this study indicated that The Grammar Key instruction can effectively influence CPAT scores in a short-term instructional situation. The evidence indicates that the instruction is most effective when taught by an instructor who is familiar with teaching adult students. The video treatment, while not statistically significant, did show a slight improvement in students' scores, therefore, the video itself might serve as an out-of-class reinforcement for in-class instruction.

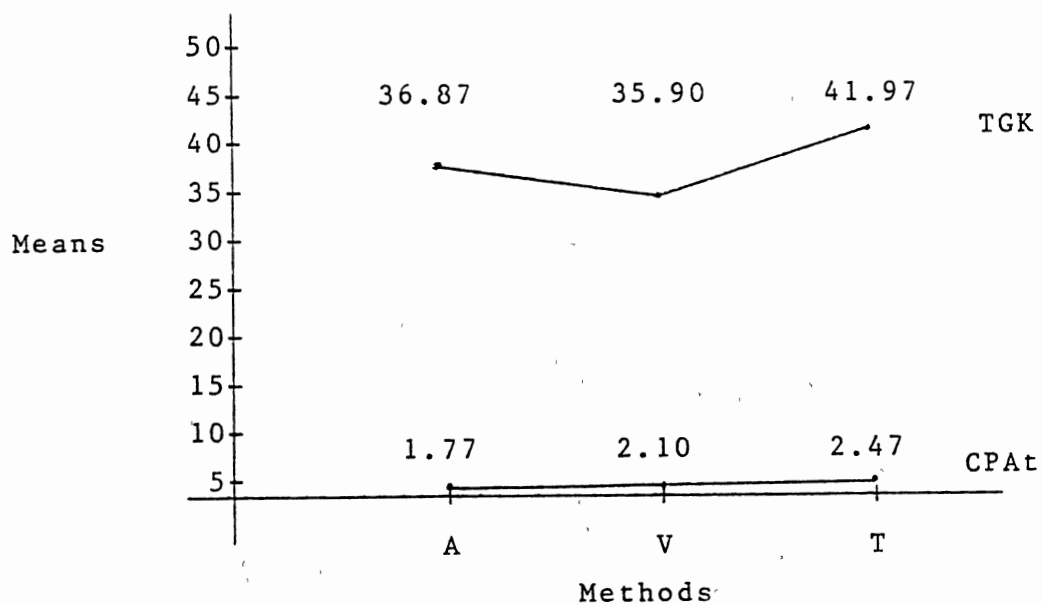


Figure 6. Graph of Relationship of Means Gains Between CPAt and The Grammar Key (TGK) Across Method.

Legend for Figure 6.

A = Author of The Grammar Key

V = Video

T = Teacher

2. In addition, this study indicated that there was no significant relationship between the CPAT test on Language Usage and the companion test for The Grammar Key for either the author of The Grammar Key treatment group, the video treatment group, or the selected teacher treatment group. While The Grammar Key companion test seemed to be more difficult than the Language Usage portion of the CPAT, the CPAT did not appear to in any way validate The Grammar Key companion test. The CPAT tests for abilities in language usage, while the companion test for The Grammar Key tests for specific knowledge of the language. The instruction for specific knowledge of the English language provided in The Grammar Key instruction seems to have been a factor in the improved Language Usage scores on the CPAT post-test. Therefore, there is some evidence that new skills can be applied and measured.

3. The companion test to The Grammar Key had never been subjected to any type of validation test and had never been normed, thereby making all findings in this study tentative.

4. Finally, the results indicated that the students sampled at the two junior colleges fell significantly below the national average on CPAT scores on both the pre-tests and the post-tests, even though significant improvement was made. (See Figures 5 and 6) These results indicated that even though improvement was made, the subjects' low abili-

ties in language usage may have been less than if the subjects had originally met or exceeded the national norm. It would seem that for these subjects an extended instructional time frame would be necessary to obtain clear-cut results, because, as Stahl (1965) explained, more and more average and below-average students have been brought into the classroom, causing the problems that have surfaced in the teaching of the effective usage of grammar.

Recommendations for Future Research

Although significant differences were found for method, it would seem that the study could be re-designed in the following manner:

1. The sample should be broadened to include students from other regional junior colleges, both public and private.
2. The instructional program should be lengthened to a summer semester or to a full 12-week trimester or even to a 16-week semester.
3. Unless a series-length professionally-produced, commercial-quality video can be made available, the video portion should be dropped from further research. Consideration could be made for producing an interactive video program.
4. Testing for instrument validity and reliability should be included in any further research.

5. Norm profiles should be developed for The Grammar Key.

The Grammar Key may be an effective tool for grammar enhancement. An institution endeavoring to use or adapt The Grammar Key to the classroom environment, as either a developmental course for pre-college English or as a supplement to English composition, may find it helpful to present it in workshop form to junior college faculty before presenting it to a class. When the faculty throughout an institution understands what their students are learning in English, it may be much easier to reinforce that learning in other courses. The Grammar Key is a tool that may have its place in both traditional and non-traditional classrooms. While further research is recommended for The Grammar Key, individual teachers may be able to judge the value of the program to their students' needs.

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