



The Relationship of sentence-expansion with pictorialization on grade six writing
by Linda Wason-Ellam

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University
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Abstract:

This study was designed to investigate the relationship of instruction and practice of sentence-expansion with pictorialization on the syntactic maturity of grade six students. Of interest to this study was the interaction of sex and prior achievement to determine whether the differentiation in the instructional technique was beneficial to a particular group.

The procedures included development of and instruction in two parallel sentence-expansion programs which differed in the task demand that the experimental program required students to draw each expansion while the control program required students to only expand sentences.

In order to measure syntactic maturity four pre-writing and post-writing samples were collected from 46 grade six students who were randomly divided into two groups: experimental and control. Two modes of discourse, narrative and expository, were examined on both free and controlled writing.

Fifty-six null hypotheses were tested in this study, fifty-four of which were accepted and two rejected. A three way analysis of variance was used to determine if there was a significant difference between the mean gain score of various syntactic factors.

Among the findings and conclusions were: 1. The use of sentence- expansion was found to be effective in increasing syntactic maturity in grade six writers independent of treatment; 2. There was a significant difference in favor of the experimental group in number of sentence transformations in narrative free writing, the most fluent writing mode in elementary levels; 3. High achieving males performed better in narrative free writing than did middle and low achieving males as well as all female achievement levels; 4. Observation demonstrated that students used pictorialization as a visual brainstorming activity, an idea sketching of what they intended to say in words. Thus, students used pictorialization to demonstrate the verbal intention; 5. The researcher found no significant differences in narrative controlled, expository, free and controlled writing based on sex, prior achievement and method of instruction.

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SENTENCE-EXPANSION WITH
PICTORIALIZATION ON GRADE SIX WRITING

by

Linda Wason-Ellam

A thesis submitted in partial fulfillment
of the requirements for the degree

of

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APPROVAL

of a thesis submitted by

Linda Wason-Ellam

This thesis has been read by each member of the thesis committee and has been found to be satisfactory regarding content, English usage, format, citations, bibliographic style, and consistency, and is ready for submission to the College of Graduate Studies.

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Linda Stasas-Ellar

Date

December 16, 1983

This thesis is dedicated to
John, who lit a candle of
understanding, which shall
not be put out.

VITA

Linda Ann Wason-Ellam was born on October 16, 1942, in Boston, Massachusetts, daughter of G. Fletcher and Ethel Raymond Wason. Educated in the Boston area, she received the Bachelor of Arts degree in Art History from Chatham College, Pittsburgh, Pennsylvania in 1964 and a Master of Education degree from the University of Pittsburgh in 1967.

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ABSTRACT

This study was designed to investigate the relationship of instruction and practice of sentence-expansion with pictorialization on the syntactic maturity of grade six students. Of interest to this study was the interaction of sex and prior achievement to determine whether the differentiation in the instructional technique was beneficial to a particular group.

The procedures included development of and instruction in two parallel sentence-expansion programs which differed in the task demand that the experimental program required students to draw each expansion while the control program required students to only expand sentences.

In order to measure syntactic maturity four pre-writing and post-writing samples were collected from 46 grade six students who were randomly divided into two groups: experimental and control. Two modes of discourse, narrative and expository, were examined on both free and controlled writing.

Sixty-six null hypotheses were tested in this study, fifty-four of which were accepted and two rejected. A three way analysis of variance was used to determine if there was a significant difference between the mean gain score of various syntactic factors.

Among the findings and conclusions were: 1. The use of sentence-expansion was found to be effective in increasing syntactic maturity in grade six writers independent of treatment; 2. There was a significant difference in favor of the experimental group in number of sentence transformations in narrative free writing, the most fluent writing mode in elementary levels; 3. High achieving males performed better in narrative free writing than did middle and low achieving males as well as all female achievement levels; 4. Observation demonstrated that students used pictorialization as a visual brainstorming activity, an idea sketching of what they intended to say in words. Thus, students used pictorialization to demonstrate the verbal intention; 5. The researcher found no significant differences in narrative controlled, expository, free and controlled writing based on sex, prior achievement and method of instruction.

Chapter I

THE DEVELOPMENT OF THE PROBLEM

INTRODUCTION

Writing is primarily a process and only secondarily a product. As a process writing is to research, to clarify information, to discover one's knowledge and opinions, to learn information specifically and to explore the self and the world. Children should use writing as an aid to their own thinking.

In the primary grades, the child discovers that English is written as groups of words, each group beginning with a capital letter and ending with a mark of punctuation. Then he discovers that there is a relationship between a unit of thought and a group of words. Developing the understanding that a sentence is a thought conveyor is an aid in composing good sentences.

An essential writing skill is the ability to combine more than one idea into a sentence. According to Hunt (1965), young children had trouble building several related ideas into one sentence. They relied on the word and to string thoughts together as in:

I saw a dog and he was big and he was with a boy.

Older writers were more likely to combine the thoughts:

I saw the big dog that was with the boy.

Sentence-building was one of the skills that contributed to the overall

quality of writing.

Educators need to design a program to help children develop writing skills. Studies conducted during the 1970's by the National Assessment of Educational Programs (1969-1974) confirmed the need for ongoing and systematic programs through which children acquire requisite writing skills (NAEP, 1975).

Between 1969 and 1975 the NAEP found increases in awkwardness, run-on sentences and incoherent paragraphs. Students tested in 1975 expressed themselves in only the simplest sentence patterns and with a limited vocabulary (NAEP, 1975).

Reacting to similar findings, Hook (cited in Porter, 1972) hypothesized relationships between thought patterns and the punctuation patterns basic to writing. He suggested that "children do not use more complex construction because their thought patterns do not require them and development of such patterns may be more closely related to thinking ability than to writing instruction." Hook proposed that learning mechanics was not a matter of learning rules but of developing an understanding of what each usage could do. In this respect, the mechanics of writing was a reflection of clarity of thinking.

When writing and thinking are viewed as parts of a whole, four categories of writing skills emerge as basic in elementary programs:

- The ability to present ideas logically in written form;

- To compose sentences;

- To punctuate and capitalize to highlight thought patterns;

- And to choose the appropriate words to communicate intended meanings.

Granted the importance of teaching writing skills, how does one go about developing the task? Haynes (1978) summarized much of the research on the teaching of writing by stating:

Historically if there has been any consistency in the teaching of writing in this country, it lies in the fact that most approaches used have been negative (p. 82).

One of the major approaches attempted has been the teaching of grammar. However, research studies reviewed by the Curriculum Commission of the National Council of Teachers of English showed that knowledge of traditional grammar had almost no relationship to the ability to speak or write clearly (Haynes, 1978). To teach grammar was not to teach the skills of writing.

THE IMPORTANCE OF THE STUDY

A common suggestion for facilitating writing competence is to help children develop skills through firsthand experiences with sentence-building techniques as part of their actual writing activity. To acquire a sense of what a sentence is, one must be able to manipulate sentences. Numbers of students have memorized the definition "a sentence is a group of words that expresses a complete thought." Unfortunately, a sentence is not the only way to express complete thoughts. At times in speaking, people express complete thoughts through single words and through phrases. Today, linguists are proposing that a better approach to building sentence sense is to have children manipulate sentence parts and gradually acquire a fundamental understanding of the two-partedness of a sentence; parts may be called subject and verb or noun phrase and

verb phrase. Once having built sentences from subject and verb parts, children can attempt to write sentences in varied patterns as they refine their ability to handle the basic sentence patterns. Therefore, sentence building would seem valuable during both the prewriting and the rewriting period.

Chomsky's (1957) transformational generative theory has become a possible alternative for educators. Basic to Chomsky's theory was a scientific method by which he tried to discover and describe the rules that generate all the grammatical sentences of a language as well as the transformational rules that govern the arrangement and rearrangement of these kernel sentences by such processes as adjunction, substitution, deletion and permutation. Transformationalists seldom concern themselves with defining terms like "sentence;" instead, they simply try to describe our intuitive knowledge about how the language is structured, our unconscious "sentence sense." In Chomsky's view, this was one of the primary functions of grammar: to describe a native speaker's unconscious knowledge of what was and what was not grammatical in the language. A grammar should describe not merely human speech, but the language system which underlies acts of speech. Thus, Chomsky postulated two levels of language structure, a surface level and a deep level. Chomsky said that the surface level consisted of a linear sequence of clauses, phrases, words and sounds or letters. The deep level consisted of the underlying propositions and the relationships among them. Transformationalists were concerned primarily with the processes by which deep structure was transformed into surface structure. Hence the name transformational grammar.

Hunt (1973) noted the change in educational thinking with regard to the changing emphasis in language instruction. He wrote:

Transformational syntax is a science of language as no previous grammar has been. It is so scientific that it can be shown to be wrong in some places and incomplete in others. And it is constantly changing at the forefront, like chemistry.... but it is right in places too.... or at least as right as a science ever is until the next major revision comes along (p. 112).

Thus, studies on various aspects of transformational grammar began. Supported by the findings of other research, Hunt (1973) made the empirical observation that a clear line of growth existed in language skills from grades four through twelve. As students became older they wrote sentences with an increasing number of transformations, that is, sentences into which had been combined a greater number of ideas than could have been expressed in simple kernel sentences. The result was not merely longer sentences or greater use of subordination but also clauses that were more complex in that they contained a greater number of embedded elements reduced to phrase or single word modifiers. Therefore, a transformational grammar approached grammar through generation or building of sentences.

Numerous studies followed investigating the effects of sentence-building exercises on students from second grade to college level. Recent research by Sinatra (1979, 1980) and Graves (1979) showed a new trend, a concern for the increased use of visual literacy strategies in the prewriting process as a way to strengthen composing and comprehending processes. Sinatra stated that one controversial area regards television viewing time and its effect upon learners. The second area regarded mode of thinking and learning processes influenced by hemispheric dominance.

Few writing programs have currently been developed that capitalize on the visual orientation of modern youth.

McCullogh (1973) indicated that prior to the age of eighteen, the American teenager spent more time viewing television than in the classroom. Childers and Ross (1973) pointed out in their review of middle elementary school pupils who watched a mean number of 3.3 hours of television daily that the number of hours had changed very little over the previous twenty years. At this point, there had been no research findings addresssing the effect of the "video craze" on students. With these facts in mind, it became more apparent than ever before that today's children were functioning in a visual world.

Research conducted by Willis et al. (1979) identified the brain's role in the processes of different types of stimuli and the contribution of each hemisphere of the brain to learning. Each hemisphere appeared to react differently to the information received. For most people, the left hemisphere processed stimuli serially, performing in a logical, analytical way by abstracting out relevant details and attaching verbal labels. The right hemisphere's mode of perception was primarily holistic. The right hemisphere was primarily a synthesizer, processing many stimuli at a time, and was more concerned with the total stimulus configuration, a visual-spatial association. Those who performed better at verbal and language related tasks were considered to be left dominant. Those who seemed to perform better at visual-spatial tasks for which the right hemisphere was organized were considered to be right dominant. Students differed in the way they performed various tasks depending on how information was processed in the dominant hemisphere.

The implications drawn from these clinical findings were that schools have overemphasized the left hemispheric functions to the virtual deprivation of the right. The question that was frequently raised was that the crisis in reading and writing skills may have been based in part on the impact of modern technology, including the visual media of the twentieth century, upon children. This research has generated a great deal of interest, but, due to its complexity, also misunderstanding and abuse. Some educators had found in it a magic panacea to cure the ills of the educational system. Their interest in brain research was related to the belief that the whole educational system was stifling creativity. They saw creativity as the prerogative of man. Many equated it with right brain activity, a conclusion which was not supported by research (Winn et al., 1983).

The Alberta Elementary Language Arts Curriculum Guide (Cossitt, 1982) looked at the interrelatedness of all aspects of language arts and integrated viewing in the mandated program.

Children's active involvement in a variety of visual experiences cannot but help to enhance language development and learning (p. 43).

Art educators as well have looked at the relationship between language and viewing. Sir Herbert Read (1945) thought art expression was natural and essential to all children. Art should be the basis of education.

Read stated:

....what is wrong with our educational system is precisely our habit of establishing separate territories and invisible frontiers. Art is the representation, language is the explanation of the same reality (p. 11).

Read advocated integrating the Three R's curriculum into a broad program based on art. Instead, art today is largely a tool for promoting the learning of the Three R's.

Goodnow (1977) stated that a great deal of thinking and communicating took place visually. However, over the past twenty years analyses of communication have concentrated primarily on words. Arnheim (1969) pointed out that our culture was preoccupied with words. He wanted to see words in their place and more attention given to the visual aspects of thoughts and memory. For Sapir (1949) words were our common and convenient means of expression, yet often the richness of experience lay beyond their reach. Language did more than supply stable tags that commit sensory experiences to acknowledging certain types of phenomena. Language interacted with the other perceptual media which were the principal vehicles of thought; it was more than "the final label put upon the finished thought" (p. 15).

According to Griffiths (1973) language could be aided by art. "One of the many functions of art is to explore, not altogether consciously, the gaps in human experiences not covered by language" (p. 216).

Jameson (1968) summed up the value of art in education:

Art is a creative process by which experiences of all kinds are expressed and communicated. It is also a process out of which experiences arise. The value of art in the educational process arises from the fact that drawing can provide the child with rich experiences which can be derived from no other source. It provides the child with means of expression - a visual language - for his own personal and social experiences (p. 19).

Dimondstein (1974) elaborated further by stating that children had experiences which are "knowable" but did not lend themselves to verbal

description.

Thinking is expressed on two levels. On a discursive level, such as in math or science, language is communicated through logical, conventionally accepted meanings that translate experience in relatively definite precise terms. On a non-discursive level the arts express experience involving impressions and associations that stem not only from words, but from shapes, movements, colors, sounds and other sensory data (p. 29).

Arnheim (1969) argued in Visual Thinking that visual perception and expression were cognitive acts. In other words, drawing, like writing, could be a way of thinking. Eisner and Ecker (1966) concurred with Arnheim and stated that art (drawing) could contribute to education by providing the nonverbal presentation by which communication of new concepts could take place.

McKim (1980) stated that visual thinking was carried on by three kinds of visual imagery:

1. The kind that we see, "people see images, not things"
2. The kind that we imagine in our mind's eye, as when we dream
3. The kind that we draw, doodle or paint.

Although visual thinking could occur primarily in the context of seeing, or only in imagination or largely with pencil and paper, visual thinkers flexibly utilized all three kinds of imagery. They found that seeing, imagining and drawing were interactive. The interactive nature of thinking is shown diagrammatically in Figure 1.

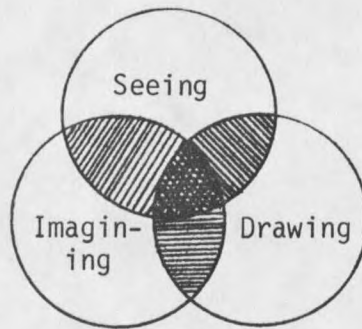


Figure 1

VISUAL THINKING

The three overlapping circles symbolize the idea that visual thinking is experienced to the fullest when seeing, imagining and drawing merge into active interplay (p. 8).

The question arose about the relationship between visual thinking and graphic language, such as drawing. Vygotsky (1966) wrote that schematically we may imagine thought and speech as two intersecting circles. In their overlapping parts, thought and speech coincided to produce what was called verbal thought. By the same analogy, McKim (1980) reasoned that visual thinking and graphic language interacted in graphic ideation as shown in Figure 2.

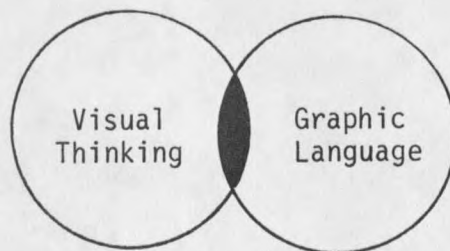


Figure 2

GRAPHIC IDEATION

The overlapping circles highlight two important observations about the interaction of thinking and language. First, not all visual thinking is language thinking; visual thinking can utilize operations (such as the act of synthesis), can be represented by imagery (such as perceptual and mental imagery), and can occur at levels of consciousness (such as dreaming) outside the realm of language thinking. Second, not all use of graphic language involves thinking: a major use of graphic language is to communicate the result of thinking to other people (p. 130).

Drawing and thinking were frequently so simultaneous that the graphic image appeared almost as an organic extension of mental processes. Hill (1966) likened drawing to a mirror: a drawing acts as the reflection of the visual mind. On its surface we can prove, test and develop the workings of our peculiar vision. Hill addressed this notion in The Language of Drawing:

Language functions as a means of collecting, ordering, relating, and retaining experience. We house our memory-thoughts in words and faint images; and the maze of sensations and perceptions that enter in upon our mind are given a form through language, the first instrument of order. Language is both an incentive and means to pursue an understanding of experience; in the same way drawing is a symbolic form functioning toward the same end. Drawing diagrams experience. It is transposition and a solidification of the mind's perceptions. From this we see drawing not simply as gesture, but as mediator, as a visual thought process which enables the artist to transform into an ordered consequence what he perceives in common (or visionary) experience. For the artist, drawing is actually a form of experiencing, a way of measuring the proportions of existence at a particular moment. Because of the directness of the drawn line and the simplicity of the material means, it is the most expeditious form in the visual arts. Drawing, then is seeing. And this provides the raison d'etre of drawing (p. 8).

For McKim (1980), drawing not only helped to bring vague inner images into focus, it also provided a record of the advancing thought

stream. Furthermore, drawing provided a function that memory cannot: the most brilliant images could not compare a number of images, side by side in memory, as one could compare idea sketches tacked-up upon a wall.

Drawing to extend one's thinking is frequently confused with drawing to communicate a well informed idea. Graphic ideation precedes graphic communication; graphic ideation helps to develop visual ideas worth communicating. Because thinking flows quickly, graphic ideation is usually freehand, impressionistic, and rapid. Because communication to others demands clarity, graphic communication is necessarily more formal, explicit, and time-consuming. Education that stresses graphic communication and fails to consider graphic ideation can unwittingly hamper visual thinking (p. 12).

Thus, the young child had a unique ability to learn and to form an understanding of the world on his own, by observation and by acting upon this observation. Much of this understanding of the world and many of the experiences that a child had can be represented in all kinds of ways, including drawing as well as writing. Drawing was not a reproduction. It was an image of what a child thought and understood.

Rohman (1965) explained that prewriting was not simply a "time" which preceded the writing. It was a matter of awareness of the writer toward his subject. This awareness allowed him to draw upon his store of experience to select and order his material in a manner appropriate to the mode and purpose of the piece. The learner must be encouraged to think, visualize, draw and then write. Sentence-building with pictorializing, then, becomes a desirable function of each individual and variation within student's writing must be considered normal and desirable, rather than a single stereotyped response. The findings by Hunt (1973) suggested that the ability to manipulate sentences was important in the teaching of

writing. Since comparatively little time was spent on syntactic manipulation in English classes, writing programs should contain an enlarged language development component in which sentence-building exercises would play an important role. These exercises would not focus on any one sentence pattern but would exploit the entire range of syntactic alternatives allowed by the grammar of English. What the young writer needed was as much practice as possible with every conceivable combination of syntactic alternative.

Students exposed to sentence-building techniques could use these syntactic manipulative skills at the prewriting or rewriting stage in their work or composition.

The majority of these studies addressing writing instruction showed a lack of research on the interaction between verbal-visual processes; thus, it seemed relevant to investigate the effects of visual processes, namely learner-produced drawing as a composing activity prior to written sentence-building practice in the writing of elementary school children. Traditionally, drawing in the elementary school has been done after the writing was completed. Thus, drawing was not considered a part of the composing and thinking process of writing.

STATEMENT OF THE PROBLEM

The problem of this study was to investigate whether students who practice sentence manipulation with pictorializing (drawing) would expand kernel sentences and write compositions that could be described as more syntactically mature from those written by similar students who practice only expanded manipulation of sentences.

The underlying problem of this study was, therefore, to determine if sentence-expansion practice with pictorializing had a significant relationship to the syntactic maturity of students' free and controlled writing.

HYPOTHESES TO BE TESTED

Specifically, the study was designed to test the gain scores in regards to Mean T-units and number of sentence transformations on the following eight dependent variables:

1. Narrative controlled writing (mean T-units)
2. Narrative controlled writing (number of sentence transformations)
3. Expository controlled writing (mean T-units)
4. Expository controlled writing (number of sentence transformations)
5. Narrative free writing (mean T-units)
6. Narrative free writing (number of sentence transformations)
7. Expository free writing (mean T-units)
8. Expository free writing (number of sentence transformations).

Each of the eight dependent variables was analyzed by inclusion in a three way analysis of variance design using gain scores to examine the difference, or change, in performance from the pretest to the posttest. The basic assumption was that a treatment effect would lead to more (or less) change in the experimental group than in the control group.

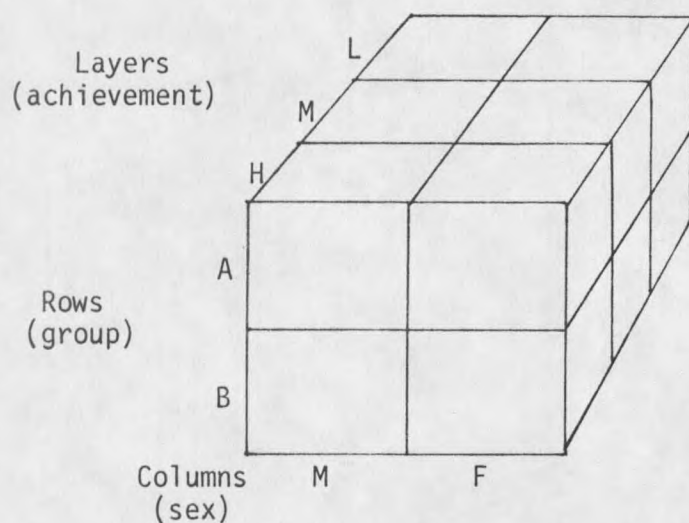


Figure 3

THREE-WAY CLASSIFICATION CUBE

Prior achievement, sex and group are the independent variables. In the layers, H represents high achievement, M represents middle achievement and L represents low achievement. The columns represent sex, male and female. In the rows Group A represents the control group while Group B represents the experimental group. Three null hypotheses were tested for each of the eight dependent variables. Since main effect rows, main effect columns, main effect layers, and interaction were analyzed, seven hypotheses were generated for each of the eight dependent variables. Therefore, fifty-six hypotheses were tested. See Chapter III for a listing of the specific fifty-six hypotheses.

DEFINITION OF TERMS

For the purpose of this study a number of terms require definition:

Kernel Sentence. A kernel sentence is a short, simple sentence which contains a noun phrase and a verb phrase. Any sentence which contains elements other than a noun phrase and a verb phrase is no longer a kernel, but a transformation (Chomsky, 1965).

Transformational Grammar. Transformational grammar is a kind of grammar that regards the speaker or writer in effect as a generator of utterances or sentences and views all sentences in a given language as either essentially simple basic patterns (kernels) or combinations and permutations (transformations) of these patterns, resulting from the application, step by step, of certain transformational rules (Friend, 1967).

Pictorializing. Pictorializing is drawing a picture as part of the thinking that goes into writing (Graves, 1979).

Controlled Writing. Controlled writing is writing which is maximally controlled by having all writers begin writing with the same material and proceed to change the structure by expanding the same short kernel sentences (Hunt, 1970).

Free Writing. Free writing is writing which is minimally controlled where the writer has a choice of subjects within a designated framework (as in Mellon's 1969 and O'Hare's 1973 studies).

Terminable Unit or T-unit. The minimal terminable unit (T-unit) consists of one main clause expanded at any of many different points by structures that are modifiers or complements or substitutes for words in the main clause (Hunt, 1965).

Nominal Clause. A nominal clause functions as a noun by acting as a subject of a clause, direct object of a verb, predicate nominative, object of a preposition or indirect object. It is introduced by a complementizer (that, if, whether) or by a WH-word (mainly who, what, which, when, where, why, how).

Dumbo thinks that John will bring him peanuts.

Dumbo wonders if John will bring him peanuts.

Dumbo wonders who will bring him peanuts.

Dumbo wonders what John will bring him.

Relative Clause. A relative clause functions like an adjective to modify a noun. A relative clause is introduced by a relative pronoun (mainly that, who, which, whose).

Turtles that are pretty are my weakness.

The man that is inside stole the money.

The woman who is coughing should see a doctor.

I want something which is unusually pretty.

Albert, whose eyes were black with hate, glared at her angrily.

Adverb Clause. An adverb clause functions like an adverb. Usually an adverb clause modifies an independent clause. An adverb clause is introduced by a subordinating conjunction. Among the most common subordinating conjunctions are the following: after, although, as, as if, because, before, even though, if, like, since, so (that), though, till, unless, until, when, where, wherever, whether (or not) and while (Weaver, 1979).

Syntactic Maturity. Syntactic maturity refers to a relationship between deep structure and surface structure so that a syntactically

mature sentence expresses a relatively high number of underlying propositions in relatively few words (Weaver, 1979).

Sentence Transformations. The kernel sentence is subject to certain transformations that include manipulation, expansions, inversions, and substitutions within patterns. A sentence may be expanded with various words and word groups, as "The girl sat down." This may be expanded with adjectives: "The small girl, the very small girl, the very small blue-eyed girl;" with prepositional phrases: "The very small blue-eyed girl with the red ribbon;" with clauses; "The very small blue-eyed girl on the stage with the red ribbon who had made a costume for the puppet;" and so on. Thus an infinite variety of English sentences can be generated from a basic pattern (Boyd, 1970).

GENERAL PROCEDURES

The general procedures that were followed are:

1. The researcher conducted an extensive review of the literature pertaining to student writing; specifically at the sentence level. This review addressed studies in the following subcategories:

- a. A summary of sentence manipulation activities
- b. Studies addressing visual and verbal activities
- c. Studies addressing drawing.

2. Two classes of heterogeneously grouped grade six students at Springbank Junior High School, Rockyview Rural School District, Calgary, Alberta, Canada, were selected to participate in this study. Rockyview is a school division comprising a combination of rural and suburban

communities adjacent to the City of Calgary. The students represented a cross-section of socio-economic groups and multiple ethnic backgrounds.

Grade six students were selected for three reasons: first, empirical research by Hunt (1965) stated that there was a clear line of growth existing in language skills from grades four through twelve to skilled adults. Secondly, the results of Golub's and Frederick's (1971) study on written discourse were compatible with those of Hunt and indicated that children at the sixth grade level started to learn how to use adjectives and adverb modification more effectively. Thirdly, sixth grade students in the Rockyview School District received instruction within a "middle school" concept. Thus, writing was on a rotational timetable, and therefore, writing instruction during the experimental cycle was easier to control as only one teacher was responsible for instruction in creative writing.

3. There were two classrooms used during the study. They were designated as follows:

- a. experimental - sixth grade students receiving instruction in sentence-expansion and pictorializing

and

- b. control - sixth grade students receiving only instruction in sentence-expansion.

4. Both the experimental and control groups were tested in February, 1983, with the Canadian Tests of Basic Skills, Level 12, on which were measured a student's achievement level in vocabulary, reading, the mechanics of writing, method of study, and mathematics.

Analysis of the language scores, Test L, L-1, L-2, L-3, L-4, allowed the researcher to differentiate both the experimental and control groups

into three categories-- high, middle and low language achievers. Assignment of language achievement groups was determined by ranking the total language scores by thirds. These data were used to investigate the interaction between achievement levels and method of instruction.

5. The experimental and control groups were pretested in March, 1983, to ascertain their equivalence and level of syntactic maturity for their free and controlled writing using Hunt's Measurement of Linguistic Maturity (four writing samples).

6. Instructional lessons and supplementary materials in sentence-expansion were developed and taught by the researcher to grade six students in both the experimental and control groups in April, 1983. The instruction involved practicing sentence-expansion activities for five fifty-five minute periods each week over a period of three weeks. These activities included both oral and written work.

Students could expand sentences or, as one language series put it, they could make sentences "grow."

The wheels continued to spin....

The students were challenged to predict what might be added through a series of questions.

The wheels continued to spin as the men worked diligently....

What did students predict for the next transformation?

The wheels continued to spin as the men worked diligently to get the racer ready....

7. The treatment for the experimental group involved the students in pictorializing each and every expansion while changing their drawings

to match the expansion. Students in the control group only expanded sentences.

8. After the duration of the sentence-expanding unit, both the experimental and control classes were posttested in May, 1983, to measure their syntactic maturity in free and controlled writing using Hunt's Measurement of Linguistic Maturity (four writing samples).

The primary concern was to determine if the writing of those students exposed to sentence-expansion practice with pictorializing would exhibit longer Terminable units (T-units) than the control group's writing. Secondly, the researcher wanted to determine whether the number of nominal, relative and adverbial sentence transformations would increase as well.

LIMITATIONS OF THE STUDY

This study was limited in the following ways:

1. The subjects involved in this study were limited to two grade six classes in a junior high in the Rockyview School District No. 41, Calgary, Alberta, Canada.

2. Generalizations drawn from the data produced in the study were further limited as only 15 instructional lessons were used.

3. The pretest and posttest included four writing samples based on two modes (narrative and expository) as well as two types (free and controlled) which according to previous research (e.g.; Hunt, O'Donnell, Mellon, O'Hare, Perron) constituted an adequate sampling of student writing for analysis. However, all students may not have produced writing that represented their best work or their general writing ability.

4. The majority of references was from the Montana State University Library, the University of Calgary Library, Inter-Library Loan Services, and use of ERIC resources. The review of the literature was limited to research reports for the period of January, 1965, to July, 1983. Studies listed under the following descriptors were included: sentence manipulation, visual stimuli, visual-verbal associations, and children's drawing and writing.

Chapter II

REVIEW OF THE LITERATURE

INTRODUCTION

In this chapter the literature was reviewed in relation to investigations concerned with student writing, specifically at the sentence level, research in verbal-visual associations and children's drawing. Findings are reported under the following main headings: Literature Related to Increasing Syntactic Maturity, Literature Related to Verbal-Visual Associations, Literature Related to Children's Drawing, and Summary of Literature Reviewed.

LITERATURE RELATED TO INCREASING SYNTACTIC MATURITY

Chomsky's publication of Syntactic Structures (1957) addressed his transformational-generative theory which "revolutionized grammatical theory" (O'Hare, 1973, p. 5). Research, previous to this, had explored issues relevant to the study of traditional grammar in relation to some aspect of composition. Braddock (1963) summed up the consensus of most of the studies by stating that:

In view of the widespread agreement of research studies based upon many types of students and teachers, the conclusion may be stated in strong and unqualified terms: the teaching of formal grammar has a negligible or, because it usually displaces some instruction and practice in actual composition, even a harmful effect on the improvement of writing (pp. 37-38).

Thus, in view of this research, the traditional grammar programs in the English curriculum began to be replaced or supplemented with transformational grammar approaches and research began on their effectiveness.

Several studies conducted between 1964 and 1978 concluded that the transformational grammar approach had a positive effect on student writing. Bateman and Zidonis (1966) conducted a study exposing ninth-grade students to the study of a generative-transformational grammar. They concluded that a study of transformational grammar increased their students' syntactic maturity as well as reduced the occurrence of errors.

Traditionally, observations on language development or syntactic maturity had identified the lengthening of sentences and increased use of subordinate clauses as indicators of progress toward a mature style. Concurrent with Bateman-Zidonis' research, Hunt (1964) conducted a study dealing with a new measure of language development, the minimal terminable unit or T-unit which was a refinement of Loban's (1961, 1963) "communication unit." The T-unit was one main clause plus any subordinate clause or nonclausal structure that was attached to or embedded in it. Hunt discovered that as students got older they tended to write longer T-units. On the basis of his findings, Hunt proposed that a sentence-building program accelerated student syntactic development.

Mellon (1969) examined the effects in students' writing of a sentence-building program like the one recommended by Hunt (1965). Examining the student writing against the baseline of expected growth in syntactic fluency, Mellon's experimental group achieved from 2.1 to 3.5 years of growth in one year while his control group failed to show even one year's growth. Mellon concluded that sentence-building problems, not

a study of transformational grammar, increased the rate at which the sentence structure of the students' writings became more highly elaborated and thus more mature. He judged this increase in growth rate to be of sufficient magnitude to justify using the programs that produced it as supplements to reading, writing and discussing.

O'Hare (1973) stated that Mellon's study was "quite difficult" and "may have inhibited some students and in some ways counteracted possible gains" (p. 12). Thus, O'Hare conducted research based upon Mellon's study of sentence combining exercises. While Mellon obtained two to three years of growth in syntactic maturity in one year for his seventh graders, at the conclusion of O'Hare's study, the writing of his eighth graders was equal to that of twelfth graders in number of words per T-unit, words per clause and a ratio of clauses to T-units.

Working with an audio-lingual or oral-drill technique, Ney (1966), Raub (1966) and Miller and Ney (1968) independently arrived at conclusions similar to those of O'Hare; not only did students write sentences of the practiced type more frequently but exhibited side effects in over-all improvement in their written composition.

The Miller and Ney study (1968) compared the performance of a fourth grade experimental class to regular oral and written practice in manipulating syntactic structures with a fourth grade control class that had regular lessons in reading and composition. After oral practice, the experimental students read literary rewrites of Mark Twain's work which provided a linguistic context for the language exercise.

A number of recent studies have shown that some type of sentence manipulation exercise increased the syntactic maturity of certain

students.

Davis (1967) found significant differences in her fourteen week study with eighth graders. The experimental group received instruction in the kernel sentences of transformational-generative grammar and the other group was taught parallel concepts of traditional grammar. Davis concluded that instruction in the kernel sentences of transformational-generative grammar promoted growth in sentence writing when three sentence variables were considered: the noun phrase element, verb expansion element and average length of clauses. She suggested that the "new" grammar offered promise to the adolescent's understanding and writing of matured syntactic language structures (p. 213-A).

In comparing the complexity of syntactic structures written by fifth graders, Gale (1968) found that those in the linguistically-oriented grammar class showed significant increase in their sentence complexity over those in a traditional grammar class.

Also working with fifth graders, Green (1973) compared the effectiveness of three language programs: composition with sentence combining, composition with error correcting (usage and punctuation), and a traditional language program. He concluded that sentence-combining activities did not differentially influence written structures when compared to other programs although the trend favored the sentence-combining group.

Young (1972) used second graders to determine the effects of sentence-expansion instruction on written composition. Also assessed was the effect of the use of tape recorders, as one experimental group used the recorder and the other used pencil and paper. After instruction that involved the expansion of sentences using adverbial phrases, clauses and

adjectives, the trend indicated that second graders seemed to improve their written composition through instruction, although most results were not significant. In a similar study with second graders in 1970, Helfman's results were significant.

The syntactic maturity level of fifth, seventh and ninth graders was significantly influenced by Fisher's (1974) selected exercises in sentence-combining and embedding based on the transformational grammar theory. His treatment consisted of sentence-combining exercises based on twelve transformations. In the first part of the course, the students combined the sentences; and in the latter part, they reversed the process to separate complex sentences into the kernel sentences from which they were composed. Syntactic maturity was measured by T-unit length, clause length and clauses per T-unit. Fisher noted that the sentence-combining practice helped students in all three grades equally, and intelligence did not affect the results as all students improved.

Research by Stotsky (1975) and Combs (1977) had shown that practice with both oral and written sentence-combining exercises resulted in more syntactically mature sentences. Practice with manipulating sentence elements may be considered an intermediary step in composition development. The child's attention was directed to applying a syntactic feature that combined the words and content already given in the kernel sentences.

Perron (1976) studied concrete and meaningful ways to involve fourth graders in sentence-combining activities. Perron concluded the following:

The six month study demonstrated that a grammar-free program of sentence-combining lessons by games, activities and experiential exercises in sentence manipulation does encourage syntactic

growth in the writing of fourth graders. It also demonstrated that games and activities do provide a valuable supplement to the language arts curriculum (p. 168).

Comparing two approaches to sentence-manipulation, Jensen (1982) indicated that the use of sentence-building techniques was found to be effective in increasing overall quality and syntactic maturity in grade six writers. She found sentence-combining was better for improvement of writing quality and sentence-expansion was better for syntactic development. Thus the current research in sentence transformation has not been concerned with how language works but in developing ways to help students use their language.

Reservations about the effect of sentence-combining programs on student writing have been expressed by Moffett (1968), Christensen (1967) and Strong (1973). Moffett expressed concern that students might overlearn the gymnastics of sentence elaboration in embedding exercises. He stated:

If he (the student) learns to coil and embed construction as an extraneously motivated intellectual feat, he may write his own sentences without regard for the needs of the whole discourse in which they occur and which alone can provide the proper context for them (p. 170).

He cited examples of students being instructed to subordinate clauses in exercise sentences or to write modifier-cluster sentences modelled on examples. These students often believed that such constructions were absolutely good and concocted them for no other motive than to comply with what seemed to be the teacher's preference, just as they originally subordinated clauses to comply with the exercise directions, instead of doing so because their ideas demanded such conjunctions.

Therefore, Moffett concluded that the isolation sentence-combining exercises must be tied to larger composition problems at every opportunity with the teacher assisting the student in making critical learning connections.

Strong (1973) added that "experimentation in composing is basic to the process, for without exploration there is little in the way of linguistic progress" (p. 5).

Further reservations about sentence-combining programs were expressed by Christensen (1967). He argued that embedding exercises might ultimately produce bad writing, which he defined as overly complicated sentences, multiple levels of embedding and grotesque noun phrases similar to those found in many government documents and social science textbooks. Strong (1973) stressed that teachers must be aware of this and must help students become gradually more adept in making clear, vigorous transformations.

LITERATURE RELATED TO VISUAL-VERBAL ASSOCIATIONS

Since language is closely linked with thought, the compositions that a child constructs are outward expressions of his thinking and a crucial part of his learning. One usually looks only at the surface structure of language, but each individual has internalized a deep and complicated understanding of language. Thus, the deep structure of language can also be elicited by non-verbal expressions, namely drawing or pictorializing. Language allows us to communicate and express; but before that, it clarifies, connects, and forms thought. Drawing does the same.

Relating to visual-verbal associations is the research of Pavio (1971, 1981) who stated that a child developed a storehouse of images that represented his knowledge of the world. Language built upon this foundation remained interlocked with it. Pavio posited a dual process of memory, which means that the learner had two independent ways of encoding and storing information -- one linguistic in character, the other based on images. Images may have been formed from sensory impressions of concrete objects or events, or generated from verbal inputs which name the objects or events. According to this view, retrieval of linguistically stored entities may have been aroused by images or vice versa. This view was consistent with the notion that thinking was a general term which cannot be equated with the more specific concept of language.

Pavio (1981) noted:

Thinking can go on in the form of verbal behavior, but it can also go on in terms of nonverbal cognitive activity that may be reflected in overt nonverbal behavior on conscious imagery. Moreover, the verbal and nonverbal processes are viewed as independent although capable of influencing each other through their interconnections (p. 265).

Therefore, some tasks required predominantly nonverbal thought processes; others required verbal processes; and still others required both to varying degrees. Thinking can go on linguistically, nonlinguistically, or both, with either system eliciting cooperative activity in the other.

According to Pavio (1981):

...it is unjustified to conclude that thought, language, or reality completely dominates the others. Rather, some aspects of thought are dominated by language, and others are dominated by the perceptual properties of concrete objects and events (p. 268).

Pavio suggested that the grammars first learned by children were "tied to" the syntax of concrete objects and events, presumably via the medium of imagery and only later would more abstract grammars emerge (p. 437).

Butterworth (1977) supported the thesis that thinking can be described by two separate but interrelated symbolic systems: a verbal symbol system and an imagery or non-verbal system.

The definition of imagery is not restricted to what is introspectively observable. Imagery may be inferred and operationally defined on the variety of measures, drawing is one such measure (p. 75).

The acquisition of a drawing ability seemed remarkably similar in its developmental pattern to the acquisition of verbal language. According to Comer (1974):

It would appear that the child does not learn words but that he invents them for the things he wants to communicate. Furthermore, imitation does not appear to be a mechanism of acquisition. This does not mean that these inventions are totally independent of the language he hears about them; they are closely related to it, but are nevertheless independent of it in important respects, the most important appearing to be the creativity which he brings to bear on the acquisition process, and this creativity has to do with the communication of concepts which he is cognitively able to handle (p. 206).

Addressing visual-verbal associations from an anthropological point of view, Hewes (1973) alleged that the communication system had both a visual-gestural channel and a vocal-auditory channel. The visual-gestural channel had its origins in man's early non-verbal signals, hand and arm gestures. Hewes believed that manual communication represented the deep cognitive structure which not only language but all of our

intellectual and technological achievements rested. He saw gesture not merely as "a kind of older retarded brother of speech" but one which came into its own with the birth of drawing which he regarded as "frozen gesture" akin to the air pictures of sign language. Historically, he maintained, both writing systems and numerical notations arose from drawings and pictographs.

The visual-gestural channel became the preferred mode for advance propositional communication in higher mathematics, physics, chemistry, biology and other sciences and technology, in the familiar form of algebraic signs, molecular structure diagrams and all the other ways in which we represent complex variables far beyond the capacity of the lineal burst of speech sounds (p. 11).

Thus, Hewes viewed drawing as another channel of communication which went beyond the realm of language.

Some research has attempted to treat children's drawings as data about their imagery. In her qualitative analysis of children's drawings, Kellogg (1970) explained that children's pictorialism was meaningful for its story element or for its social or psychological significance rather than for just its aesthetic composition. In contrast, Goodnow (1978) contended that drawings were not simple printouts of perception, just as images could not be replays of initial sensations.

Research conducted by Freeman (1972) suggested that the child had many items available in memory but because of the difficulties the child had in retrieving them such items were not included in their drawings. The child was tempered by his own coordination, the edge of the paper and the line that he executed himself. For these reasons, Freeman rejected drawing as a source of direct access to the child's mental imagery. Hayes

(cited in Kosslyn, 1980) also noted that children were unable to depict all of the characteristics that they knew about the appearance of an object.

No matter what children's drawings look like we probably can posit an interpretation process that will convert practically any internal representations into that drawing (p. 420).

Kosslyn (1980) agreed that children's drawings did not provide support for the view that the child's memory representations are pictorial images. Kosslyn's model differed from Pavio's dual-coding process which represented information in memory.

Images have two major components. The "surface representation" is the quasi-pictorial entity in active memory that is accompanied by the experience of "having an image." The "deep representation" is the information in long-term memory from which the surface image is derived (p. 139).

Sinatra (1980) advocated restructuring language art activities to include a visual composition which would help children in the composing, writing, and comprehending process. A visual composition is a sequence of commercial pictures, photos or slides, that tells or infers a complete story or theme. The objective in structuring a visual composition is to coordinate a series of single pictures so that learners can use written language to compose the story seen in the visual sequence. Sinatra (1980) believed that the visuals provided concrete stimuli to bridge the gap between the idea and the visualization of the idea, strengthening the memory bond between language and experience. When teachers combine a visual mode of presentation with associated verbal explanation, they provide a powerful tool for thinking and language expansion.

Tuttle (1978) also suggested a media approach to stimulate writing through the use of pictures, slides and cartoons. Students should

participate in pre-writing activities by translating visual ideas into verbal ideas.

Language arts and bilingual teachers also used pictures and pictorial sequences, as suggested by Sohn (1969, 1970) and Leavitt (1969) to increase student's visual awareness and to spark imaginative oral and written compositions.

Of particular interest is the research of Golub, Frederick and Bargent (1970) who found that when children used concrete pictures in the pre-writing activities, they used more adverbial clauses and adverbial modifications in their writing than those produced by abstract pictures. However, the viewing of commercial pictures, slides and cartoons about which the children write was not the same process as the child visualizing and drawing his own images and writing his own thoughts. This suggests that there is a difference between visually receiving an image and visually producing an image. Only in the research conducted by Graves and Sowers (1979) did the learners produce their own drawings in the pre-writing activities. One of the activities was pictorializing, which is drawing a picture as part of the thinking that goes into writing. Before a child writes, he draws a picture and explains it. Then he writes about what he drew and begins the same sequence for the next episode. Because pictorializing appeared to be a natural way in which young children plan ahead as they write, Graves et al. felt that such activities should be encouraged as part of pre-writing.

Graves reported:

Children need to rehearse before they write.
They may need to draw, play or talk before
they write. A change or elaboration in

rehearsal such as drawing in profile, planning a story or composing aloud may lead to a more sophisticated piece of writing (p. 835).

Similar research is being conducted in other curricular areas. In mathematics, children were encouraged to express mathematical ideas through their own drawings. Dirkes (1980) stated:

Pictures and concrete objects serve to communicate mathematics in a way that words and symbols do not match (p. 10).

Working with bilingual students, Castallanos (1980) supported Dirkes:

Many culturally different children are gifted in nonverbal communication. They draw and interpret visuals more readily than other content. In some cases their drawings aid diagnosis, for pictures compensate for vocabulary deficiencies (p. 16).

LITERATURE RELATED TO DRAWING

There have been more descriptive than experimental research studies conducted on the topic of drawing. Drawings are normally seen as the performance that ends with a product. Thus, it is the performance that tends to be measured, not the thought behind it. This is limiting in many ways because the type of knowledge most useful for guiding educational practice is not simply a description, but an identification of casual relationships. As educators, one is interested not only in understanding children, but in helping them develop. The most useful research for bringing such change is the type that will indicate the probable consequences of a particular educational action. Such knowledge is most likely to be secured from experimental studies. At present, this researcher has identified no published studies examining the relationship between drawing and the writing process.

Numerous researchers have studied drawings as indices of mental maturity, memory for visual form and general personality. In recent years, there have been some attempts to relate drawing to cognition, particularly language development. Included in this review were several peripheral studies addressing drawing. Lansing (1979) demonstrated that drawing contributed to the development of mental representations which he ultimately suggested had implications for language development. Language could be facilitated if children possessed more highly differentiated mental representations. Words could then be connected with more recognizable things, have more meaning, be easier to recall and use.

Research looking at links between oral language and drawing include that of Martin (1981) who developed an assessment index which measured growth in the pictorial-narrative statements of Kindergarten children. Results of this study showed parallel growth in verbal and visual forms.

As children invent and create sequences of personally significant pictorial-narrative statements, they seem to understand their experiences and display new learnings in both visual and verbal form. As the individual grows in awareness and understanding about the relationships among self, life, and environment, the complexity of the statements seem to increase as new statements are made to express new learnings, personal visions of life and the world are adjusted and refined and new structures and complexities emerge (p. 164).

Examining first grade drawings and the oral stories the children told about them, Stull (1982) reported that children whose drawings were rich in detail also exhibited verbal language that was rich in detail. More important, Stull observed that children solved problems through communication both in verbal language and in drawing.

SUMMARY OF LITERATURE REVIEWED

INCREASING SYNTACTIC MATURITY

Results of recent studies (Mellon, 1969; O'Hare, 1973) have substantiated the hypothesis that sentence-manipulation increased the rate at which the sentence structure of the student's writing became more mature. Perhaps, of greater significance, the O'Hare (1973) and Miller and Ney (1968) studies concluded that practice at a sentence level was transferred to general improvement in larger units of writing.

Students from grade two to grade twelve had been exposed to some type of sentence-manipulation exercises (Gale, 1968; Green, 1973; Fisher, 1974; Stotsky, 1975; Combs, 1977; Perron, 1976) and all studies have favored the experimental groups.

Research with sentence building techniques (Hilfman, 1970; Young, 1972) that required students to add grammatical structures to kernel sentences indicated that this method of teaching composition showed promise and that further research was warranted.

In order that sentence-manipulation curricula be of optimum value to the students, Moffett (1968), Christenson (1967) and Strong (1973) stressed that isolated sentence-building exercises be tied to larger composition problems and that exploration with many forms of sentence combinations be encouraged.

VERBAL-VISUAL ASSOCIATIONS

Research studies (Pavio, 1971, 1981 and Butterworth, 1977) have suggested that thinking could be described by an interrelated dual symbol system: verbal and non-verbal. They saw language and thought as related. In part, they suggested that language is thought, but the converse is not necessarily true, since some thinking goes on non-linguistically. Non-linguistic thinking might occur in images or it could initiate verbal activity.

To accommodate for this dual coding system, Golub, Frederick and Bargent (1970), Sinatra (1978, 1980), Tuttle (1978), Graves (1979) and Dirkes (1980) advocated incorporating visual strategies within the writing and composing activities.

Other researchers (Freeman, 1972; Goodnow, 1978; Hayes, 1980 and Kosslyn, 1980) rejected the notion that drawing was merely a printout of what the child has stored in memory. Drawing was tempered by an interpretive process as well as handicapped by the process of retrieval.

DRAWING

At present, the researcher has not identified any published studies looking at the links between drawing as a pre-writing activity and written composition. However, some studies (Lansing, 1979; Martin, 1981; and Stull, 1982) addressed the relationship between drawing and cognition, particularly language development. These studies suggested that drawing could facilitate growth in language development. As drawing grew rich in detail, oral language developed as well.

Observations by Stull (1982) demonstrated that grade one children solve language problems through drawing.

Chapter III

PROCEDURES

INTRODUCTION

This study was designed to test the effect of a three week period of oral and written sentence-expansion practice with pictorializing (independent of students' formal knowledge of grammar) on the rate of growth in syntactic maturity reflected in grade six students' free and controlled writing.

Differences in T-unit (Terminable unit) length and number of sentence-transformations (involving both nominal, relative and adverbial structures) were the two factors considered in the pre and posttests.

The procedure used for conducting this study is outlined under the following categories:

1. Population Description and Sampling Procedures
2. Design of the Study
3. Treatment
4. Test Instruments
5. Collection and Organization of Data
6. Statistical Hypotheses
7. Analysis of Data

POPULATION DESCRIPTION

In order to compare the two sentence-expansion techniques, students in two grade six classes in Springbank Junior High School, Rockyview School Division #41, Calgary, Alberta, Canada, were assigned to one of two groups--experimental or control. The experimental group received instruction and practice in sentence-expansion and pictorialization. This group was composed of 23 students of whom 13 were girls and 10 were boys. The control group received sentence-expansion instruction and practice. This group was composed of 23 students of whom 16 were girls and 7 were boys. The total number of subjects involved in this study was 46 of whom 29 were girls and 17 were boys.

Rockyview is a school division comprising a combination of rural and suburban communities adjacent to the City of Calgary. The students represented a broad cross section of socioeconomic groups and multiple ethnic backgrounds.

This particular school was selected from among the general Calgary School divisions for two reasons: First, the majority of grade six classes in the Calgary area was grouped by ability; however, students in this school were heterogeneously grouped. Secondly, the researcher had access to this school to conduct the study. At Springbank Junior High, there were four grade six language classes, two classes were taught by the same teacher and the remaining two classes were each taught by a different teacher. In order to eliminate teacher variable, which could have contaminated the study, the researcher decided that both classes taught by the same teacher would be used in the study. Enrollment had

declined in the Calgary area school division during 1982-1983 due to the depressed economic climate. Thus, a smaller number of students than anticipated participated in the study. The experimental and control groups were determined by a coin toss.

DESIGN OF THE STUDY

Both the experimental and control groups were given a pretest (y_1) on the dependent variable, the syntactic maturity assessment. A One Way ANOVA was done to determine and verify the equivalency of the groups on selected syntactic factors. After three weeks of instruction the students were given a posttest (y_2) on the dependent variable. The average difference between the posttest and the pretest ($y_2 - y_1$) was found for each group and then these average difference scores were compared in order to ascertain whether the experimental treatment resulted in a significant difference in the mean T-unit gain scores and number of sentence transformations in the writing samples.

The design had three characteristics:

1. The independent variable, which was the method of instruction with pictorializing
2. The dependent variable, which was the gain score determined by subtracting pre from post scores on the syntactic maturity test
3. Controls, classes which were randomly assigned to two groups, which differed only in the addition of pictorializing during instruction.

TREATMENT

Teaching sentence expanding techniques was used to develop syntactic maturity in student writers. Research had demonstrated that practice with both oral and written sentence-expanding exercises promoted more syntactically mature sentences (Miller and Ney, 1968; Young, 1972; Stotsky, 1975; Combs, 1977 and Jensen, 1982). Essentially researchers had sought to promote syntactic growth through sentence-expanding "problems." Children were provided with a series of exercise materials, each of which illustrated a sentence-expanding technique and was followed with practice activities utilizing that technique. Sentence-building activities also included exercises that focused on changing meaning, usually by extending or making the kernel sentence more precise. For example, children were asked to describe what they "saw" or what came to mind when they heard or saw this sentence:

The cat ran along the fence.

Children were asked directed questions. What kind of cat it was, what kind of fence it was, where the fence was, and whether the cat was running fast. Children were then asked to write a sentence that conveyed the images brought to mind specifically and clearly. One response might have been:

The Siamese cat ran along the redwood fence.

Another might have written:

An enormous calico cat paced back and forth along
the picket fence.

Children could have then extended this process by rearranging the words

in the sentence:

Pacing along a picket fence was an enormous
calico cat, or

The cat, enormous and calico, paced along the
picket fence.

Weiner (1978) pointed out that the context of all sentence-building activities should be orientated towards the children's interests. Consequently, teachers must devise the activities themselves. These activities stemmed from the notion that power in written expression grew from active manipulation of language rather than from study about language as an abstract system. Practice with manipulating sentence elements might be considered as an intermediary step in composition development.

In an effort to apply the findings of the research studies mentioned above, the researcher attempted to include several features of these in the sentence-expanding programs developed for the present study.

Impressed by the findings of previous research into sentence-building, this researcher designed a program to extend some lines of the research and combine other areas of research in the area of composition development. In this study an attempt was made to incorporate the best features of these studies and to extend them in the following ways:

1. To involve a grade six class
2. To focus on embedding and additional problems in both
cued and uncued formats
3. To include oral practice
4. To present exercises in series which result in
paragraph development

5. To construct a variety of sentence patterns in a developed, organized fashion
6. To take a linguistic approach to produce longer T-units and more sentence transformations
7. To develop games, poems, slides, tapes to augment student writing
8. To compare the use of sentence-expansion with pictorializing to sentence-expansion.

INSTRUCTIONAL OBJECTIVES

The instructional objectives of this unit were as follows:

1. To establish an awareness of the need for writing longer, more complex sentences
2. To provide activities that would develop skill in writing longer, more complex sentences than those previously constructed
3. To provide activities that would develop skills in expanding short choppy sentences
4. To provide activities that would encourage the application of those sentence-expansion skills taught in this unit.

PERFORMANCE OBJECTIVES

Upon completion of this unit, the students would be able to do the following:

1. Expand given sentences through modification using words and word groups
2. Create complex sentences by following a given pattern

3. Expand and vary sentence structures
4. Expand sentences using nominal, relative and adverbial transformations which convey precise information and feelings.

LESSON OBJECTIVES

Lesson objectives were developed in an order which was consistent with the curricula developed by Perron (1974) as well as outlined by Lindfors (1980). These lesson objectives are listed below in Table 1:

Table 1
LESSON OBJECTIVES

Lesson	Sentence-Expansion Technique
1	The student will be able to practice and expand compound sentences by joining two kernel sentences together using <u>and</u> , <u>or</u> , <u>but</u> , <u>either-or</u> , <u>neither-nor</u> and <u>so</u> .
2	The student will be able to practice and expand sentences through subordination using "joining words" such as <u>often</u> , <u>as</u> , <u>before</u> , <u>since</u> , <u>until</u> , <u>when</u> , <u>while</u> , <u>as soon as</u> , <u>just when</u> , <u>although</u> , <u>because</u> , <u>if</u> , <u>since</u> , <u>though</u> , <u>unless</u> .
3	The student will practice and expand kernel sentences making transformations at the <u>beginning</u> , <u>middle</u> and <u>end</u> .
4	The student will practice and expand kernel sentences through modification using cue words.
5	The student will practice and expand kernel sentences by inserting <u>who</u> , <u>which</u> and <u>that</u> .
6	The student will listen to a story and then practice expanding the short choppy sentences to increase their syntactic maturity.
7	The student will practice and expand kernel sentences using adjectives of size, shape, texture, color, feelings and conditions.

- 8 The student will view a slide sequence and will practice and expand imperative kernel sentences.
- 9 The student will practice and expand sentences using alliteration.
- 10 The student will practice and be able to use clues to construct a story through sentence expansion procedures.

The student will be able to practice and expand sentences by using participles in their transformations.
- 11 The student will be able to practice and expand sentences by using appositives in their sentence expansions.
- 12 The student will practice and be able to expand sentences by answering questions using a clue word (who, why, what, where, when, how).
- 13 The student will be able to practice and expand sentences using the possessive (my, mine, his, her(s), our(s), your(s) and their(s)).
- 14 The student will practice and expand sentences using similes and metaphors in their transformations.
- 15 The student will practice and expand sentences using adverbs of time, place, manner, cause, condition and comparison.

Samples of the program features are included in Appendix D.

SUMMARY OF TREATMENT

Impressed by the findings of previous research into sentence-building, this researcher designed an activity program that included nominal, relative and adverbial transformations.

The respective program differed in the task demand in that in the experimental program, the students were required to pictorialize each and every expansion while in the control program students were only required to expand sentences.

TEST INSTRUMENTS

CANADIAN TESTS OF BASIC SKILLS

The Canadian Tests of Basic Skills provided a comprehensive and continuous measurement of growth in the fundamental skills.* The Language Battery of the Canadian Tests of Basic Skills was administered to all students in the study during February, 1983, the month prior to the inception of the study. The Language Battery (Test L) was made up of four subtests: spelling (L-1), capitalization (L-2), punctuation (L-3), and usage (L-4). The tests in this battery yielded a measurement of growth in the mechanics of writing.

The scores obtained were used to determine high, medium and low language achievers. Assignment of language achievement groups was determined by ranking the total language score, Test L, by thirds. The scores obtained were used in this study to examine the interaction of prior language achievement and pre-posttest scores of selected syntactic factors found in the writing samples.

* The Canadian Tests of Basic Skills are adapted from test materials which were originally designed and constructed by the staff of the College of Education at the University of Iowa. This professional measurement project in test development and utilization has been a continuous endeavour since 1935. The Canadian project began in the early 1960's under the direction of Dr. Ethel King at the University of Calgary. Canadian educators reviewed the placement and relative emphasis in the basic skills which led to the publication of Forms 1 and 2 in 1966. Since that time curriculum innovations and other changes in educational methods and philosophy have been under constant review. The placement and content specifications of the present forms reflect the contributions of consultants and professional colleagues, analysis of Canadian curriculum guides and textbooks, and the comments and suggestions of the teachers and administrators who use the tests (p. 9).

Two test instruments were used in this study in order to collect a representative sample of student's writing.

SYNTACTIC MATURITY TEST

The test of syntactic maturity was devised by Hunt (1970) in order to "test more directly the students' proficiency in sentence embedding" (1970, p. 10). In this instrument, two passages consisting of extremely short sentences were presented to students who were directed to "rewrite in a better way." The instrument was designed to control what the subject said but not how he said it. Therefore, differences due to content or subject matter were ruled out, the only difference in the output of one writer as compared to another would be written by the writer himself.

There were three features to this test:

1. All students were given the same passage, therefore, all students wrote about the same thing. The difference lay in how they said it.
2. Because all students were writing about the same theme, the number of writing samples was smaller.
3. To eliminate external influences on writing, the writing activity was conducted in one class period under teacher supervision.

Identical pretests and posttests for the controlled writing were used, so the memory factor over the experimental period should have been minimal. The test for expository controlled writing was that used by Hunt (1970) and the one for narrative controlled writing was from Mulder (1975) (Appendix B). Both contained the same number of kernel sentences

of connected discourse. Each sentence was a single clause for an average of four words per sentence. The extremely short sentences were chosen to give abundant opportunities for the student to use many of the sentence-expanding transformations.

The writing produced on the Syntactic Maturity Test was evaluated by segmenting into T-units and counting the number of sentence transformations.

FREE WRITING TEST

Hunt (1970) advised researchers to use both the Syntactic Maturity Test (controlled writing) and collections of free writing samples in order to measure maturity in handling syntactic structures.

Free writing representing two modes of discourse, expository and narrative, was based on the format used by Mellon (1969) and O'Hare (1973) for their free writing collections. Stimulus topics were provided in each of the two modes. For each mode, the students were asked to select one topic from four suggested topics, and then were given one hour to write on that topic. Specific directions for the Pretest-Posttest are provided in Appendix B. The writing produced on the Free Writing Test was evaluated by segmenting into T-units and counting the number of sentence transformations.

COLLECTION AND ORGANIZATION OF DATA

WRITING SAMPLE COLLECTION

In order to measure the syntactic maturity of the subject's writing, a representative sample of that writing was collected. This writing represented two modes of discourse, narrative and expository, and free and controlled. Samples were collected for the two modes, acknowledging that a writer's performance could vary according to the mode in which he was writing (San Jose, 1972). A pretest (see Appendix A and B) was given to all students on their free and controlled writing (four samples) before they began the experimental treatment; and a posttest (see Appendix A and B) on free and controlled writing (four samples) was given to the same students after 15 fifty minute class meetings of instruction. Both the pre and posttests were administered by the classroom teacher who was trained by the researcher in test administration.

The writing examined on the pre and posttest was of two types: one maximally controlled (controlled writing) by having all writers expand the same short kernel sentences; and one minimally controlled (free writing) where the writer had, within a designated framework, a choice of stimulus topics (the students were asked to select one topic from four suggested topics). Both controlled and free writing tests were used because instruction was directed, first, to a very structured situation where the student followed specific directions. In the second instance, it was speculated that the controlled practice would transfer to a freer situation.

There were specific reasons for using this procedure to collect writing samples. Maimon and Nodine (1978) questioned whether there would be differences in syntactic skill attributable to differences in types of writing assignments. While they found that increases in scores on both Hunt's Syntactic Maturity Test and Free Writing essays were significant, college freshmen wrote longer T-units on the Free Writing than they did on the Controlled Writing. Concurring with Maimon and Nodine (1978), the researcher felt it was necessary to test both types of writing with grade six students.

RATERS

Two independent raters scored the pre and posttests in this study. The raters were language arts teachers who were given specific instruction in the scoring procedures requested by the researcher. The raters were given materials to study regarding the syntactic features of compositions, a scoring guide prepared by the researcher, sample paragraphs scored by the researcher, a list of definitions relevant to the scoring procedures and a supply of felt pens to be used to color code the syntactic factors found in the writing samples. The scoring guide is presented in Appendix C.

Initially, one rater scored all the pre and posttest writing samples. To ensure the accuracy of the syntactical analysis, the second rater checked every sixteenth writing sample. These papers were randomly selected from the 368 pre and post writing samples. Each rater did a cumulative count of the total number of words, number of T-units and number of sentence transformations which included nominal, relative and

adverbial transformations. Between rater 1 and rater 2 there was a product-moment correlation coefficient of 1.000 on all measures.

SCORING

The writing was scored by raters in terms of selected syntactic factors. Scores were obtained for T-unit length and number of sentence transformations for each of the four writing samples. This procedure ensured that a substantial number of words was written by each student so that a thorough assessment could be made of the writing.

The writing samples underwent a quantitative assessment performed by the same independent raters. The writing was segmented according to the methods described in Indexes of Syntactic Maturity (Dixon, 1970a).

The following syntactic factors were measured:

- I. _____ Mean Length of T-units
 - A. _____ Total Number of Words
 - B. _____ Number of T-units
- II. _____ Number of Sentence Transformations
 - A. _____ Number of Nominal Transformations
 - 1. _____ Noun + Adjective
 - 2. _____ Noun + Possessive
 - 3. _____ Noun + Relative Clause
 - 4. _____ Noun + Preposition Phrase
 - 5. _____ Noun + Infinitive Phrase
 - 6. _____ Noun + Participle Phrase
 - 7. _____ Noun + Adverbial
 - B. _____ Number of Relative Transformations

1. _____ Adjective of size
 2. _____ Adjective of color
 3. _____ Adjective of shape
 4. _____ Adjective of feel (texture)
 5. _____ Adjective of feelings
 6. _____ Adjective of condition (old, tired)
 7. _____ Adjective of motion
- C. _____ Number of Adverbial Transformations
1. _____ Adverb of Time
 2. _____ Adverb of Place
 3. _____ Adverb of Manner
 4. _____ Adverb of Cause
 5. _____ Adverb of Condition
 6. _____ Adverb of Comparison

The first independent rater did a detailed analysis of each composition. A count was done of the number of words and the segmenting of T-units ignoring all punctuation and using all the words written in the sample. In addition, a tally was made of the frequency of occurrence of each of seven nominal transformations, seven relative transformations and six adverbial transformations. These tallies and counts were entered on the Syntactic Maturity Analysis Sheet (Appendix C).

In the analysis referred to above, the following kinds of word counting, interpretation and segmentation procedures were used:

1. A T-unit was considered to consist of one independent clause with all the subordinate clauses attached to it. Segmenting into T-units cuts each compound sentence or

compound-complex sentence into two or more T-units.

T-units were marked by placing brackets around them.

2. Sentence fragments, if they were intelligible and syntactically related to another T-unit were included as part of that T-unit.
3. Unintelligible word groupings, words, or unattached fragments, that Hunt (1965) referred to as "garbles," were omitted from the word count and the analysis.
4. Contractions were counted as two words
(e.g., don't).
5. Proper names were counted as one word
(e.g., McMahon Stadium).
6. Dates were counted as one word, as were times
(e.g., June 21, 8:00 a.m.).

If days were included with a date, they were counted separately

(e.g., Saturday, June 9 [two words]).

7. Compound nouns written as one word were counted as one word
(e.g., storehouse).

Compound nouns written as two words and hyphenated word pairs were counted as two words

(e.g., ice cream [two words]);

(e.g., jack-knife [hyphenated word pair]).

8. Adverbs of negation, fillers, such as now and well and exclamatory words that introduce longer expressions were included in the word count.
9. Lists set out in a numbered or listed format were considered as though they were items in a series separated by commas in a T-unit.
10. A direct quotation which was part of a sentence containing a speaker tag was included along with the speaker tag as part of the same T-unit.
Direct quotations which had no speaker tag or which occurred in sentences separated from their speaker tag were considered as separate T-units.
11. When the conjunction "so" was used to join two otherwise independent clauses, and when it was clear that there was a causal relationship between the two clauses or that "so" was equivalent to "in order that," it was considered to be a subordinating conjunction and the two clauses it joined were considered to be one T-unit.

(e.g., Tie up the canoe so it stays close to shore.).

TIME SCHEDULE

The school guidance counsellor administered the Canadian Tests of Basic Skills in February 1983 over a period of three weeks and analyzed the Language Battery (Test L). This test yielded a measurement of growth

in the mechanics of writing. High, middle and low achievement groups were attained by ranking the experimental and control groups by thirds.

The classroom teacher administered the pretest which involved the collecting of four writing samples in four sessions, two sessions per week for a total of two weeks. Students were not told the purpose of these exercises. Pretesting was begun during the third week of March and was completed by the first week in April. These papers were collected and given to the raters in random order for scoring.

The experimental program was conducted for three weeks beginning the second week of April.

The researcher was responsible for the design and preparation of all learning materials as well as the classroom instruction during the entire period of the study. These lessons were used in the presentation to both the experimental and control groups. One of these groups (the experimental) had additional instruction with pictorializing by producing drawings prior to the changes in sentence transformations.

At the conclusion of the experimental program, the classroom teacher once again collected four writing samples in four sessions, two sessions per week for a total of two weeks. Posttesting began the first week in May and proceeded until all samples were collected by the beginning of the third week (See Table 2). All writing samples were given to the rater who was instructed to mark the samples in the same way that she had marked the pretest sample and to complete the data sheets in the same fashion as previously instructed.

Thus, a period of four months elapsed between the administering of the achievement test and the collecting of the posttest writing samples.

Table 2

TESTING AND INSTRUCTION TIME SCHEDULE

DATE	TIME IN CLASS HOURS (50min/week)	GROUPS	
		EXPERIMENTAL	CONTROL
Feb.1-25	4	Canadian Test of Basic Skills Pretest	
March 21- April 1	4	Syntactic Maturity Test Expository Controlled Writing Narrative Controlled Writing Narrative Free Writing Expository Free Writing	
		INSTRUCTION	
April 11	1	Lesson one: coordination	
April 12	1	Lesson two: subordination	
April 13	1	Lesson three: rearrangement	
April 14	1	Lesson four: relative clauses	
April 15	1	Lesson five: modification	
April 18	1	Lesson six: rewrite	
April 19	1	Lesson seven: adjectives	
April 20	1	Lesson eight: imperative sentences	
April 21	1	Lesson nine: alliteration	
April 22	1	Lesson ten: participles	
April 25	1	Lesson eleven: appositives	
April 26	1	Lesson twelve: W5 + how	
April 27	1	Lesson thirteen: possessives	
April 28	1	Lesson fourteen: figurative language	
April 29	1	Lesson fifteen: adverbial transformations	
May 2- May 13	4	Posttest same as Pretest	

Figure 4 outlines scheduling and analysis and their relationship to answering the research hypotheses.

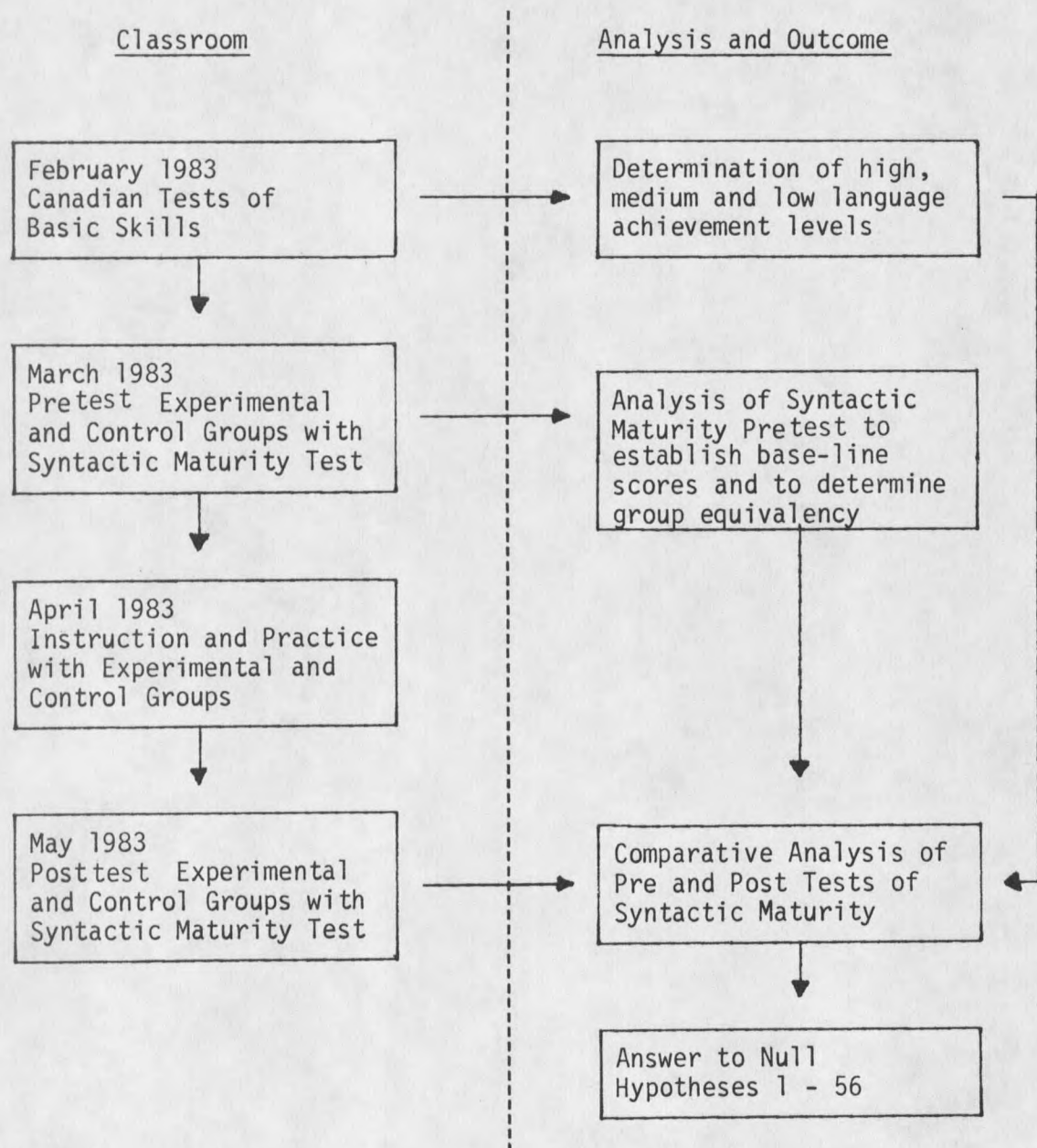


Figure 4

SCHEDULING AND ANALYSIS

STATISTICAL HYPOTHESES

- H_{01} = There is no significant interaction in mean T-unit gain score in expository controlled writing between sex of the student and method of instruction.
- H_{02} = There is no significant difference in mean T-unit gain score in expository controlled writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence expansion.
- H_{03} = There is no significant difference in mean T-unit gain score in expository controlled writing between male and female students.
- H_{04} = There is no significant interaction in mean T-unit gain score in expository controlled writing between prior achievement and method of instruction.
- H_{05} = There is no significant interaction in mean T-unit gain score in expository controlled writing between sex of the student and prior achievement.
- H_{06} = There is no significant difference in mean T-unit gain score in expository controlled writing among high, medium and low achievement groups.
- H_{07} = There is no significant interaction in mean T-unit gain score in expository controlled writing among method of instruction, sex of student and prior achievement.
- H_{08} = There is no significant interaction in mean T-unit gain score in narrative controlled writing between sex of the student and method of instruction.
- H_{09} = There is no significant difference in mean T-unit gain score in narrative controlled writing between students who received instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.
- H_{010} = There is no significant difference in mean T-unit gain score in narrative controlled writing between male and female students.
- H_{011} = There is no significant interaction in mean T-unit gain score in narrative controlled writing between prior achievement and method of instruction.
- H_{012} = There is no significant interaction in mean T-unit gain score in narrative controlled writing between sex of the student and prior achievement.

- H_{013} = There is no significant difference in mean T-unit gain score in narrative controlled writing among high, medium and low achievement groups.
- H_{014} = There is no significant interaction in mean T-unit gain score in narrative controlled writing among method of instruction, sex of student and prior achievement.
- H_{015} = There is no significant interaction in mean T-unit gain score in narrative free writing between sex of the student and method of instruction.
- H_{016} = There is no significant difference in mean T-unit gain score in narrative free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.
- H_{017} = There is no significant difference in mean T-unit gain score in narrative free writing between male and female students.
- H_{018} = There is no significant interaction in mean T-unit gain score in narrative free writing between prior achievement and method of instruction.
- H_{019} = There is no significant interaction in mean T-unit gain score in narrative free writing between sex of the student and prior achievement.
- H_{020} = There is no significant difference in mean T-unit gain score in narrative free writing among high, medium and low achievement groups.
- H_{021} = There is no significant interaction in mean T-unit gain score in narrative free writing among method of instruction, sex of student and prior achievement.
- H_{022} = There is no significant interaction in mean T-unit gain score in expository free writing between sex of the student and method of instruction.
- H_{023} = There is no significant difference in mean T-unit gain score in expository free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.
- H_{024} = There is no significant difference in mean T-unit gain score in expository free writing between male and female students.
- H_{025} = There is no significant interaction in mean T-unit gain score in expository free writing between prior achievement and method of instruction.

- H_{026} = There is no significant interaction in mean T-unit gain score in expository free writing between sex of the student and prior achievement.
- H_{027} = There is no significant difference in mean T-unit gain score in expository free writing among high, medium and low achievement groups.
- H_{028} = There is no significant interaction in mean T-unit gain score in expository free writing among method of instruction, sex of student and prior achievement.
- H_{029} = There is no significant interaction in number of sentence transformations in expository controlled writing between sex of the student and method of instruction.
- H_{030} = There is no significant difference in number of sentence transformations in expository controlled writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.
- H_{031} = There is no significant difference in number of sentence transformations in expository controlled writing between male and female students.
- H_{032} = There is no significant interaction in number of sentence transformations in expository controlled writing between prior achievement and method of instruction.
- H_{033} = There is no significant interaction in number of sentence transformations in expository controlled writing between sex of the student and prior achievement.
- H_{034} = There is no significant difference in number of sentence transformations in expository controlled writing among high, medium and low achievement groups.
- H_{035} = There is no significant interaction in number of sentence transformations in expository controlled writing among method of instruction, sex of student and prior achievement.
- H_{036} = There is no significant interaction in number of sentence transformations in narrative controlled writing between sex of the student and method of instruction.
- H_{037} = There is no significant difference in number of sentence transformations in narrative controlled writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

- H₀₃₈ = There is no significant difference in number of sentence transformations in narrative controlled writing between male and female students.
- H₀₃₉ = There is no significant interaction in number of sentence transformations in narrative controlled writing between prior achievement and method of instruction.
- H₀₄₀ = There is no significant interaction in number of sentence transformations in narrative controlled writing between sex of the student and prior achievement.
- H₀₄₁ = There is no significant difference in number of sentence transformations in narrative controlled writing among high, medium and low achievement groups.
- H₀₄₂ = There is no significant interaction in number of sentence transformations in narrative controlled writing among method of instruction, sex of student and prior achievement.
- H₀₄₃ = There is no significant interaction in number of sentence transformations in narrative free writing between sex of the student and method of instruction.
- H₀₄₄ = There is no significant difference in number of sentence transformations in narrative free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.
- H₀₄₅ = There is no significant difference in number of sentence transformations in narrative free writing between male and female students.
- H₀₄₆ = There is no significant interaction in number of sentence transformations in narrative free writing between prior achievement and method of instruction.
- H₀₄₇ = There is no significant interaction in number of sentence transformations in narrative free writing between sex of the student and prior achievement.
- H₀₄₈ = There is no significant difference in number of sentence transformations in narrative free writing among high, medium and low achievement groups.
- H₀₄₉ = There is no significant interaction in number of sentence transformations in narrative free writing among method of instruction, sex of student and prior achievement.
- H₀₅₀ = There is no significant interaction in number of sentence transformations in expository free writing between sex of the student and method of instruction.

- H₀₅₁ = There is no significant difference in number of sentence transformations in expository free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.
- H₀₅₂ = There is no significant difference in number of sentence transformation in expository free writing between male and female students.
- H₀₅₃ = There is no significant interaction in number of sentence transformations in expository free writing between prior achievement and method of instruction.
- H₀₅₄ = There is no significant interaction in number of sentence transformations in expository free writing between sex of the student and prior achievement.
- H₀₅₅ = There is no significant difference in number of sentence transformations in expository free writing among high, medium and low achievement groups.
- H₀₅₆ = There is no significant interaction in number of sentence transformations in expository free writing among method of instruction, sex of student and prior achievement.

In the event that there was a significant interaction, main effect rows, columns and layers hypotheses were not considered for analysis in that specific three way design. All hypotheses were tested at the .01 level of significance.

ANALYSIS OF DATA

Raters assessed student writing for selected syntactic factors. The data from this study were analyzed in the following ways: First, the means for T-unit length were calculated. Then, a one way analysis of variance was used to determine whether initial performance between the two groups was significantly different. The test was used to compare the pretest mean scores of the two groups. Next, three way analyses of variance were completed to determine significant differences testing 56 null

hypotheses. F ratios were tested for significance set at the .01 level of confidence throughout.

To answer questions one through twenty-eight ($H_{01} - H_{028}$), three way analyses of variance tests were used to determine the mean T-unit gain score in both the narrative and expository free and controlled writing of grade six students.

To answer questions twenty-nine to fifty-six ($H_{029} - H_{056}$), three way analyses of variance tests were used to determine the gain in number of sentence transformations (nominal, relative and adverbial) in both the narrative and expository free and controlled writing of grade six students.

All collected data were key-punched on 80-column cards, processed and stored for analysis of data. Each student was identified by number, group, sex and prior achievement. There was one card coded for each student, which contained mean T-unit scores and number of sentence transformations for the pretest and for the posttest.

The analyses were done at the University of Calgary, Alberta, Canada, using the SPSS program (Statistical Package for the Social Science).

PRECAUTIONS TAKEN FOR ACCURACY

An independent rater, who had no prior knowledge of the research method or the materials used, tallied the pre and posttest scores. To ensure the accuracy of the grammatical analysis, a second rater, a language instructor from the Calgary Board of Education, checked every sixteenth writing sample. These papers were randomly selected from the 368 pre and post writing samples.

Chapter IV

DATA ANALYSIS AND RESULTS

The major purpose of this study was to determine whether grade six students who practiced sentence-expansion with pictorialization would expand kernel sentences and write compositions that could be described as syntactically different from those written by grade six students exposed to only sentence-expansion practice. Additionally, the selected variables of prior achievement, sex and method of instruction were analyzed to determine if there was a significant level of interaction.

The study focused on the following questions:

1. Is there a significant difference in the length of T-units in grade six students' controlled and free writing (both expository and narrative modes) after sentence-expansion with pictorialization exercises?
2. Is there a significant difference in the number of sentence transformations (nominal, relative and adverbial) in grade six students controlled and free writing (both expository and narrative modes) after sentence-expansion with pictorialization exercises?

In addition, the following six sub-questions were considered in association with each of the preceding major research questions:

3. Is there a significant interaction between the method of instruction and sex?

4. Is there a significant interaction between method of instruction and prior achievement?
5. Is there a significant difference among high, medium and low achievement?
6. Is there a significant difference between male and female students?
7. Is there a significant interaction between sex of the student and prior achievement?
8. Is there a significant interaction among method of instruction, sex of the student and prior achievement?

To investigate the comparative relationship of two techniques for increasing sentence maturity in grade six writers, 56 null hypotheses were formulated. A three way analysis of variance was used to determine if there were any significant differences between the mean gain score of the various syntactic factors: words per T-unit and number of sentence transformations. In this analysis differences were looked for in mean change between the two groups. The level of significance was set at $p < .01$.

Before determining whether significant syntactic changes occurred in the subject's writing, it was necessary to determine whether the random selection process had been successfully used to place students of equal syntactic ability into the experimental and control groups. To do this, a one-way analysis of variance was used to compare the pretest mean scores of the two groups. In the analyses student writing variables were considered in comparing the pretest mean scores on each of the eight dependent variables for both groups. In Table 3 the results of this test

Table 3

Comparison of Pretest Mean Scores on the Variables of Syntactic Development for Controlled and Free Writing: Experimental and Control Groups
(One Way ANOVA)

Variables	Experi- mental n=23	Control n=23	F	df	p Value	
	Means	Means				

Syntactic Factors

Mean T-unit lengths:

expository controlled	5.765	5.652	0.18	1, 44	0.6743	NS
narrative controlled	5.570	5.326	1.65	1, 44	0.2063	NS
narrative free	7.452	7.583	0.10	1, 44	0.7478	NS
expository free	7.534	7.875	0.48	1, 44	0.4934	NS

Number of Sentence
Transformations:

expository controlled	12.13	11.35	0.50	1, 44	0.4846	NS
narrative controlled	13.26	10.83	7.11	1, 44	0.0107	NS
narrative free	21.52	20.83	0.06	1, 44	0.8137	NS
expository free	24.83	14.78	17.78	1, 44	0.0001	*

* = significant at the .01 level

NS = not significant

illustrated that the two groups were sufficiently similar to be considered equal. However, in the analysis of one of the eight dependent variables, the number of sentence transformations in expository free writing, it was demonstrated that the experimental group scored significantly better than the control group. The experimental group, those students who at a later time received instruction and practice in sentence-expansion with pictorialization, had a pretest mean of 24.83. The control group, those who at a later time only received instruction and practice in sentence expansion, had a pretest mean of 14.78. In the one way analysis of variance an F ratio of 17.78, a statistic that was significant beyond the .01 level ($p = .0001$) was yielded (Table 3).

RELEVANT DATA AND FINDINGS

In order to determine the effectiveness of the treatments, the students' writing samples before treatments and those written following treatments were analyzed. Tabulations of specific syntactic features within the compositions were made, and gain scores were calculated for each student on these variables:

1. Mean length of T-units
2. Number of sentence transformations which was a cumulative score of:
 - a. Number of nominal transformations (e.g.,
noun plus adjective, possessive, relative
clause, prepositional phrase, infinitive
phrase, participle phrase, and adverbial);

- b. Number of relative transformations (e.g.,
adjectives of size, color, shape, feel
(texture), feelings, condition (old) and
motion);
- c. Number of adverbial transformations (e.g.,
adverbs of time, place, manner, cause,
condition and comparison).

In analyzing syntactic development, hypotheses were organized according to syntactic features and modes of writing.

MEAN T-UNIT AND MODE OF WRITING

Question one: Is there a significant difference in the length of T-units in grade six students' controlled and free writing (both expository and narrative modes) after sentence-expansion with pictorialization exercises?

Twenty-eight hypotheses were tested using a three way analysis of variance to determine the effects of treatment, sex, prior achievement and the interaction of these variables. In this section are reported the analysis and results of hypotheses H_{01} to H_{028} .

Expository Controlled Writing

H_{01} = There is no significant interaction in mean T-unit gain score in expository controlled writing between sex of the student and method of instruction.

The comparison of the sex of a student with method of instruction was used to determine if males or females could achieve significantly higher gain scores when instructed with a particular method. The data

Table 4

Means and Standard Deviation for Gain Scores for Mean T-unit Length for Free and Controlled Writing (Expository and Narrative)								
	N	mean gain score	S.D.	N	mean gain score	S.D.	N	mean gain score
GROUP	EXPERIMENTAL			CONTROL				
expository controlled	23	1.265	1.124	23	0.752	1.447		
narrative controlled	23	2.435	1.352	23	2.135	1.186		
narrative free	23	1.187	1.392	23	1.087	2.539		
expository free	23	1.452	1.271	23	0.830	2.617		
SEX	MALES			FEMALES				
expository controlled	18	0.900	1.324	28	1.079	1.316		
narrative controlled	18	2.150	1.333	28	2.371	1.239		
narrative free	18	0.833	1.608	28	1.414	2.252		
expository free	18	1.489	2.128	28	0.918	2.020		
ACHIEVEMENT	HIGH			MIDDLE		LOW		
expository controlled	15	1.107	1.180	16	1.513	1.489	15	0.373 0.999
narrative controlled	15	2.527	1.261	16	2.656	1.471	15	1.647 0.769
narrative free	15	1.513	1.830	16	1.106	2.836	15	0.947 1.017
expository free	15	0.653	1.760	16	1.163	1.994	15	1.607 2.404

obtained by this analyses indicated no significant interaction between sex and method of instruction (Table 5). This finding led to the retention of the null hypotheses, H_{01} .

H_{02} = There is no significant difference in mean T-unit gain score in expository controlled writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence expansion.

The mean T-unit gain score for the experimental group in sentence-expansion with pictorialization was 1.265 with a standard deviation of 1.124. The mean T-unit gain score of the control group in sentence-expansion was 0.752 with a standard deviation of 1.447 (Table 4). The three way analysis of variance yielded an F ratio of 1.27, a statistic that was not significant beyond the .01 level ($p = 0.2668$) (Table 5).

This finding led to the retention of the null hypotheses, H_{02} .

H_{03} = There is no significant difference in mean T-unit gain score in expository controlled writing between male and female students.

The mean T-unit gain score for male students in expository controlled writing was 0.900 with a standard deviation of 1.324. The mean T-unit gain score for female students in expository controlled writing was 1.079 with a standard deviation of 1.316 (Table 4). The three way analysis of variance yielded an F ratio of 0.10, a statistic that was not significant beyond the .01 level ($p = 0.7573$) (Table 5). This finding led to the retention of the null hypothesis, H_{03} .

H_{04} = There is no significant interaction in mean T-unit gain score in expository controlled writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly higher gain scores when instructed with a particular method. The

data obtained by this analysis indicate no significant interaction between prior achievement and method of instruction (Table 5). This finding led to the retention of the null hypothesis, H_{04} .

H_{05} = There is no significant interaction in mean T-unit gain score in expository controlled writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly higher gain scores when analyzed by high, middle or low achievement groups. The data obtained by this analysis indicated no significant interaction between sex and prior achievement (Table 5). This finding led to the retention of the null hypothesis, H_{05} .

H_{06} = There is no significant difference in mean T-unit gain score in expository controlled writing among high, medium and low achievement groups.

The mean T-unit gain score for high achievers in expository controlled writing was 1.107 with a standard deviation of 1.180. The mean T-unit gain score of middle achievers was 1.513 with a standard deviation of 1.489. While the mean T-unit gain score of low achievers was 0.373 with a standard deviation of 0.999 (Table 4). The three way analysis of variance yielded an F ratio of 1.66, a statistic that was not significant beyond the .01 level ($p = 0.2056$) (Table 5). This finding led to the retention of the null hypothesis, H_{06} .

H_{07} = There is no significant interaction in mean T-unit gain score in expository controlled writing among method of instruction, sex of student and prior achievement.

The comparison of the method of instruction, sex of student and prior achievement was used to determine if male or female students as high, middle or low achievers could achieve significantly higher gain

Table 5

Three-way ANOVA Comparing Gain Scores for Mean T-unit Length in Expository Controlled Writing						
Source	Sum of Squares	df	Mean Squares	F	p	
Group	2.306	1, 34	2.306	1.27	0.2668	NS
Sex	0.176	1, 34	0.176	0.10	0.7573	NS
Achievement	5.998	2, 34	2.999	1.66	0.2056	NS
Group x Sex	0.105	1, 34	0.105	0.06	0.8111	NS
Group x Achievement	0.574	2, 34	0.287	0.16	0.8540	NS
Sex x Achievement	1.454	2, 34	0.727	0.40	0.6721	NS
Group x Sex x Achievement	0.208	2, 34	0.104	0.00	0.9990	NS
Error	61.509	34	1.809			

* = significant at the .01 level

NS = not significant

scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between method of instruction, sex of student and prior achievement (Table 5). This finding led to the retention of the null hypothesis, H_{07} .

Narrative Controlled Writing

H_{08} = There is no significant interaction in mean T-unit gain score in narrative controlled writing between sex of the student and method of instruction.

The comparison of the sex of a student and method of instruction was used to determine if males or females could achieve significantly higher gain score when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between sex and method of instruction (Table 6). This finding led to the retention of the null hypothesis, H_{08} .

H_{09} = There is no significant difference in mean T-unit gain score in narrative controlled writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

The mean T-unit gain score for the experimental group in sentence-expansion with pictorialization was 2.435 with a standard deviation of 1.352. The mean T-unit gain score of the control group in sentence-expansion was 2.135 with a standard deviation of 1.186 (Table 4). The three way analysis of variance yielded an F ratio of 0.39, a statistic that was not significant beyond the .01 level ($p = 0.5390$) (Table 6). This finding led to the retention of the null hypotheses, H_{09} .

H_{010} = There is no significant difference in mean T-unit gain score in narrative controlled writing between male and female students.

The mean T-unit gain score for male students in narrative controlled writing was 2.150 with a standard deviation of 1.333. The mean T-unit gain score for female students in narrative controlled writing was 2.371 with a standard deviation of 1.239 (Table 4). The three way analysis of variance yielded an F ratio of 1.41, a statistic that was not significant beyond the .01 level ($p = 0.2428$) (Table 6). This finding led to the retention of the null hypothesis, H_{010} .

H_{011} = There is no significant interaction in mean T-unit gain score in narrative controlled writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between prior achievement and method of instruction (Table 6). This finding led to the retention of the null hypothesis, H_{011} .

H_{012} = There is no significant interaction in mean T-unit gain score in narrative controlled writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly higher gain scores when analyzed by high, middle or low achievement groups. The data obtained by this analysis indicated no significant interaction between sex and prior achievement (Table 6). This finding led to the retention of the null hypothesis, H_{012} .

H_{013} = There is no significant difference in mean T-unit gain score in narrative controlled writing among high, medium and low achievement groups.

Table 6

Three-way ANOVA Comparing Gain Scores for Mean T-unit Length in Narrative
Controlled Writing

Source	Sum of Squares	df	Mean Squares	F	p	
Group	0.557	1, 34	0.557	0.39	0.5390	NS
Sex	2.045	1, 34	2.045	1.41	0.2428	NS
Achievement	9.221	2, 34	4.611	3.19	0.0539	NS
Group x Sex	0.130		0.130	0.09	0.7664	NS
Group x Achievement	6.159	2, 34	3.080	2.13	0.1346	NS
Sex x Achievement	1.018	2, 34	0.509	0.35	0.7061	NS
Group x Sex x Achievement	5.465	2, 34	2.733	1.89	0.1669	NS
Error	49.204	34	1.447			

* = significant at the .01 level

NS = not significant

The mean T-unit gain score for high achievers in narrative controlled writing was 2.527 with a standard deviation of 1.261. The mean T-unit gain score of middle achievers was 2.656 with a standard deviation of 1.471. While the mean T-unit gain score of low achievers was 1.647 with a standard deviation of 0.769 (Table 4). The three way analysis of variance yielded an F ratio of 3.19, a statistic that was not significant beyond the .01 level ($p = 0.0539$) (Table 6). This finding led to the retention of the null hypothesis, H_{013} .

H_{014} = There is no significant interaction in mean T-unit gain score in narrative controlled writing among method of instruction, sex of student and prior achievement.

The comparison of the method of instruction, sex of student and prior achievement was used to determine if male or female students as high, middle or low achievers could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction among method of instruction, sex of student and prior achievement (Table 6). This finding led to the retention of the null hypothesis, H_{014} .

Narrative Free Writing

H_{015} = There is no significant interaction in mean T-unit gain score in narrative free writing between sex of the student and method of instruction.

The comparison of the sex of a student with method of instruction was used to determine if males or females could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between sex and method of instruction (Table 7). This finding led to the

retention of the null hypothesis, H_{015} .

H_{016} = There is no significant difference in mean T-unit gain score in narrative free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

The mean T-unit gain score for the experimental group in sentence-expansion with pictorialization was 1.187 with a standard deviation of 1.392. The mean T-unit gain score of the control group in sentence-expansion was 1.087 with a standard deviation of 2.539 (Table 4). The three way analysis of variance yielded an F ratio of 0.31, a statistic that was not significant beyond the .01 level ($p = 0.5822$) (Table 7).

This finding led to the retention of the null hypothesis, H_{016} .

H_{017} = There is no significant difference in mean T-unit gain score in narrative free writing between male and female students.

The mean T-unit gain score for male students in narrative free writing was 0.833 with a standard deviation of 1.608. The mean T-unit gain score for female students in narrative free writing was 2.371 with a standard deviation of 1.239 (Table 4). The three way analysis of variance yielded an F ratio of 0.73, a statistic that was not significant beyond the .01 level ($p = 0.3980$) (Table 8). This finding led to the retention of the null hypothesis, H_{017} .

H_{018} = There is no significant interaction in mean T-unit gain score in narrative free writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between prior achievement and method of instruction (Table 7). This led

to the retention of the null hypothesis, H_{018} .

H_{019} = There is no significant interaction in mean T-unit gain score in narrative free writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly higher gain scores when analyzed by high, middle or low achievement groups.

The data obtained by this analysis indicated no significant interaction between sex and prior achievement (Table 7). This finding led to the retention of the null hypothesis, H_{019} .

H_{020} = There is no significant difference in mean T-unit gain score in narrative free writing among high, medium and low achievement groups.

The mean T-unit gain score for high achievers in narrative free writing was 1.513 with a standard deviation of 1.830. The mean T-unit gain score of middle achievers was 1.106 with a standard deviation of 2.836. While the mean T-unit gain score of low achievers was 0.947 with a standard deviation of 1.017 (Table 4). The three way analysis of variance yielded an F ratio of 0.77, a statistic that was not significant beyond the .01 level ($p = 0.4731$) (Table 7). This finding led to the retention of the null hypothesis, H_{020} .

H_{021} = There is no significant interaction in mean T-unit gain score in narrative free writing among method of instruction, sex of student and prior achievement.

The comparison of the method of instruction, sex of student and prior achievement was used to determine if male or female student as high, middle or low achievers could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction among method of

Table 7

Three-way ANOVA Comparing Gain Scores for Mean T-unit Length in Narrative Free Writing

Source	Sum of Squares	df	Mean Squares	F	p	
Group	1.515	1, 34	1.515	0.31	0.5822	NS
Sex	3.597	1, 34	3.597	0.73	0.3980	NS
Achievement	7.515	2, 34	3.758	0.77	0.4731	NS
Group x Sex	1.230	1, 34	1.230	0.25	0.6199	NS
Group x Achievement	3.013	2, 34	1.507	0.31	0.7378	NS
Sex x Achievement	10.284	2, 34	5.142	1.05	0.3620	NS
Group x Sex x Achievement	2.431	2, 34	1.216	0.25	0.7821	NS
Error	166.949	34	4.910			

* = significant at the .01 level

NS = not significant

instruction, sex of student and prior achievement (Table 7). This finding led to the retention of the null hypothesis, H_{021} .

Expository Free Writing

H_{022} = There is no significant interaction in mean T-unit gain score in expository free writing between sex of the student and method of instruction.

The comparison of the sex of a student with method of instruction was used to determine if males or females could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between sex and method of instruction (Table 8). This finding led to the retention of the null hypothesis, H_{022} .

H_{023} = There is no significant difference in mean T-unit gain score in expository free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

The mean T-unit gain score for the experimental group in sentence-expansion with pictorialization was 1.452 with a standard deviation of 1.271. The mean T-unit gain score of the control group in sentence-expansion was 0.830 with a standard deviation of 2.617 (Table 4). The three way analysis of variance yielded an F ratio of 0.02, a statistic that was not significant beyond the .01 level ($p = .8967$) (Table 8).

This finding led to the retention of the null hypothesis, H_{023} .

H_{024} = There is no significant difference in mean T-unit gain score in expository free writing between male and female students.

The mean T-unit gain score for male students in expository free writing was 1.489 with a standard deviation of 2.128. The mean T-unit gain score for female students in expository free writing was 0.918 with

a standard deviation of 2.020 (Table 4). The three way analysis of variance yielded an F ratio of 0.44, a statistic that was not significant beyond the .01 level ($p = 0.5119$) (Table 8). This finding led to the retention of the null hypothesis, H_{024} .

H_{025} = There is no significant interaction in mean T-unit gain score in expository free writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between prior achievement and method of instruction (Table 8). This finding led to the retention of the null hypothesis, H_{025} .

H_{026} = There is no significant interaction in mean T-unit gain score in expository free writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly higher gain scores when analyzed by high, middle or low achievement groups. The data obtained by this analysis indicated no significant interaction between sex and prior achievement (Table 8). This finding led to the retention of the null hypothesis, H_{026} .

H_{027} = There is no significant difference in mean T-unit gain score in expository free writing among high, medium and low achievement groups.

The mean T-unit gain score for high achievers in expository free writing was 0.653 with a standard deviation of 1.760. The mean T-unit gain score of middle achievers was 1.163 with a standard deviation of 1.994. While the mean T-unit gain score of low achievers was 1.607 with

Table 8

Three-way ANOVA Comparing Gain Scores for Mean T-unit Length in Expository Free Writing

Source	Sum of Squares	df	Mean Squares	F	p	
Group	0.608	1, 34	0.608	0.02	0.8967	NS
Sex	1.561	1, 34	1.561	0.44	0.5119	NS
Achievement	4.969	2, 34	2.484	0.70	0.5040	NS
Group x Sex	9.468	1, 34	9.468	2.66	0.1118	NS
Group x Achievement	6.797	2, 34	3.399	0.96	0.3943	NS
Sex x Achievement	17.636	2, 34	8.818	2.48	0.0986	NS
Group x Sex x Achievement	1.872	2, 34	0.936	0.26	0.7700	NS
Error	120.798	34	3.553			

* = significant at the .01 level

NS = not significant

a standard deviation of 2.404 (Table 4). The three way analysis of variance yielded an F ratio of 0.70, a statistic that was not significant beyond the .01 level ($p = 0.5040$) (Table 8). This finding led to the retention of the null hypothesis, H_{027} .

H_{028} = There is no significant interaction in mean T-unit gain score in expository free writing among method of instruction, sex of student and prior achievement.

The comparison of the method of instruction, sex of student and prior achievement was used to determine if male or female students as high, middle or low achievers could achieve significantly higher gain scores when instructed with a particular method. The data obtained by this analysis indicated no significant interaction among method of instruction, sex of student and prior achievement (Table 8). This finding led to the retention of the null hypothesis, H_{028} .

NUMBER OF SENTENCE TRANSFORMATIONS AND MODE OF WRITING

Question two: Is there a significant difference in the number of sentence transformations (nominal, relative and adverbial) in grade six students' controlled and free writing (both expository and narrative modes) after sentence-expansion with pictorialization exercises?

Twenty-eight hypotheses were tested using a three way analysis of variance to determine the effects of treatment, sex, prior achievement and the interaction of these variables. In this section are reported the analysis and results of hypotheses H_{029} to H_{056} .

Table 9

Means and Standard Deviation for Gain Scores for Number of Sentence Transformations for Free and Controlled Writing (Expository and Narrative)

	N	mean gain score	S.D.	N	mean gain score	S.D.	N	mean gain score	S.D.
GROUP	EXPERIMENTAL			CONTROL					
expository controlled	23	11.57	15.16	23	7.043	5.261			
narrative controlled	23	26.65	14.86	23	20.48	14.86			
narrative free	23	26.13	14.33	23	19.87	13.02			
expository free	23	14.87	18.88	23	14.78	18.33			
SEX	MALES			FEMALES					
expository controlled	18	9.500	16.31	28	9.179	7.149			
narrative controlled	18	20.89	12.63	28	25.29	15.36			
narrative free	18	21.39	15.03	28	24.04	13.31			
expository free	18	12.61	10.97	28	16.25	16.09			
ACHIEVEMENT	HIGH			MIDDLE			LOW		
expository controlled	15	9.667	7.306	16	9.000	6.47	15	9.267	17.97
narrative controlled	15	26.80	13.89	16	25.38	16.59	15	18.40	11.51
narrative free	15	22.67	15.87	16	24.94	14.81	15	21.27	11.25
expository free	15	11.60	14.57	16	18.44	17.44	15	14.20	9.526

Expository Controlled Writing

H_{029} = There is no significant interaction in number of sentence transformations in expository controlled writing between sex of the student and method of instruction.

The comparison of the sex of a student with method of instruction was used to determine if males or females could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between sex and method of instruction (Table 10). This finding led to the retention of the null hypothesis, H_{029} .

H_{030} = There is no significant difference when using number of sentence transformations in expository controlled writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

The mean gain score for number of sentence transformations for the experimental group in sentence-expansion with pictorialization was 11.57 with a standard deviation of 15.16. The mean gain score for number of sentence transformations for the control group in sentence-expansion was 7.043 with a standard deviation of 5.261 (Table 9). The three way analysis of variance yielded an F ratio of 0.54, a statistic beyond the .01 level ($p = 0.4690$) (Table 10). This finding led to the retention of the null hypothesis, H_{030} .

H_{031} = There is no significant difference in number of sentence transformations in expository controlled writing between male and female students.

The mean gain score for number of sentence transformations for male students in expository controlled writing was 9.500 with a standard deviation of 16.31. The mean gain score for number of sentence transformations for female students in expository controlled writing was 9.179

with a standard deviation of 7.149 (Table 9). The three way analysis of variance yielded an F ratio of 0.17, a statistic beyond the .01 level ($p = 0.6808$) (Table 10). This finding led to the retention of the null hypothesis, H_{031} .

H_{032} = There is no significant interaction in number of sentence transformations in expository controlled writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between prior achievement and method of instruction (Table 10). This finding led to the retention of the null hypothesis, H_{032} .

H_{033} = There is no significant interaction in number of sentence transformations in expository controlled writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly greater number of sentence transformations when analyzed by high, middle or low achievement groups. The data obtained by this analysis indicated no significant interaction between sex and prior achievement (Table 10). This finding led to the retention of the null hypothesis, H_{033} .

H_{034} = There is no significant difference in number of sentence transformations in expository controlled writing among high, medium and low achievement groups.

The mean gain score for number of sentence transformations for high achievers in expository controlled writing was 9.667 with a standard deviation of 7.306. The mean gain score for number of sentence

Table 10

Three-way ANOVA Comparing Gain Scores for Number of Sentence Transformations in Expository Controlled Writing						
Source	Sum of Squares	df	Mean Squares	F	p	
Group	79.470	1, 34	79.470	0.54	0.4690	NS
Sex	25.5189	1, 34	25.5189	0.17	0.6808	NS
Achievement	17.516	2, 34	8.758	0.06	0.9427	NS
Group x Sex	0.199	1, 34	0.199	0.00	0.9710	NS
Group x Achievement	207.933	2, 34	103.967	0.70	0.5028	NS
Sex x Achievement	15.533	2, 34	7.771	0.05	0.9490	NS
Group x Sex x Achievement	182.980	2, 34	91.490	0.62	0.5453	NS
Error	5038.500	34	148.191			

* = significant at the .01 level

NS = not significant

transformations for middle achievers was 9.000 with a standard deviation of 6.47. While the mean gain score for number of sentence transformations of low achievers was 9.267 with a standard deviation of 17.97 (Table 9). The three way analysis of variance yielded an F ratio of 0.06, a statistic that was not significant beyond the .01 level ($p = 0.9427$) (Table 10).

H_{035} = There is no significant interaction in number of sentence transformations in expository controlled writing among method of instruction, sex of student and prior achievement.

The comparison of the method of instruction, sex of student and prior achievement was used to determine if male or female students as high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction among method of instruction, sex of student and prior achievement (Table 10). This finding led to the retention of the null hypothesis,

H_{035}

Narrative Controlled Writing

H_{036} = There is no significant interaction in number of sentence transformations in narrative controlled writing between sex of the student and method of instruction.

The comparison of the sex of a student with method of instruction was used to determine if males or females could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between sex and method of instruction (Table 11). This finding led to the retention of the null hypothesis, H_{036}

H_{037} = There is no significant difference when using number of sentence transformations in narrative controlled writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

The mean gain score for number of sentence transformations for the experimental group in sentence-expansion with pictorialization was 26.65 with a standard deviation of 14.86. The mean gain score for number of sentence transformations for the control group in sentence-expansion, was 20.48 with a standard deviation of 14.86 (Table 9). The three way analysis of variance yielded an F ratio of 2.56, a statistic beyond the .01 level ($p = 0.1192$) (Table 11). This finding led to the retention of the null hypothesis, H_{037} .

H_{038} = There is no significant difference in number of sentence transformations in narrative controlled writing between male and female students.

The mean gain score for number of sentence transformations for male students in narrative controlled writing was 20.89 with a standard deviation of 12.63. The mean gain score for number of sentence transformations for female students in narrative controlled writing was 25.29 with a standard deviation of 15.36 (Table 9). The three way analysis of variance yielded an F ratio of 0.06, a statistic beyond the .01 level ($p = 0.8149$) (Table 11). This finding led to the retention of the null hypothesis, H_{038} .

H_{039} = There is no significant interaction in number of sentence transformations in narrative controlled writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a

particular method. The data obtained by this analysis indicated no significant interaction between prior achievement and method of instruction (Table 11). This finding led to the retention of the null hypothesis,

H_{039} .

H_{040} = There is no significant interaction in number of sentence transformations in narrative controlled writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly greater number of sentence transformations when analyzed by high, middle or low achievement groups. The data obtained by this analysis indicated no significant interaction between sex and prior achievement (Table 11).

These findings led to the retention of the null hypothesis, H_{040} .

H_{041} = There is no significant difference in number of sentence transformations in narrative controlled writing among high, medium and low achievement groups.

The mean gain score for number of sentence transformations for high achievers in narrative controlled writing was 26.80 with a standard deviation of 13.89. The mean gain score for number of sentence transformations for middle achievers was 25.38 with a standard deviation of 16.59. While the mean gain score for number of sentence transformations of low achievers was 18.40 with a standard deviation of 11.57 (Table 9). The three way analysis of variance yielded an F ratio of 1.73, a statistic that was not significant beyond the .01 level ($p = 0.1924$ (Table 11).

This finding led to the retention of the null hypothesis, H_{041} .

H_{042} = There is no significant interaction in number of sentence transformations in narrative controlled writing among method of instruction, sex of student and prior achievement.

The comparison of the method of instruction, sex of student and

Table 11

Three-way ANOVA Comparing Gain Scores for Number of Sentence Transformations in Narrative Controlled Writing						
Source	Sum of Squares	df	Mean Squares	F	p	
Group	486.149	1, 34	486.149	2.56	0.1192	NS
Sex	10.587	1, 34	10.587	0.06	0.8149	NS
Achievement	658.586	2, 34	329.293	1.73	0.1924	NS
Group x Sex	5.033	1, 34	5.033	0.03	0.8718	NS
Group x Achievement	622.596	2, 34	311.298	1.60	0.2160	NS
Sex x Achievement	150.123	2, 34	75.061	0.39	0.6770	NS
Group x Sex x Achievement	934.251	2, 34	467.125	2.46	0.1009	NS
Error	6468.633	34	190.254			

* = significant at the .01 level

NS = not significant

prior achievement was used to determine if male or female students as high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction among method of instruction, sex of student and prior achievement (Table 11). This finding led to the retention of the null hypothesis,

H_{042} .

Narrative Free Writing

H_{043} = There is no significant interaction in number of sentence transformations in narrative free writing between sex of the student and method of instruction.

The comparison of the sex of a student with method of instruction was used to determine if males or females could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between sex and method of instruction (Table 13). This finding led to the retention of the null hypothesis, H_{043} .

H_{044} = There is no significant difference when using number of sentence transformations in narrative free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

The mean gain score for number of sentence transformations for the experimental group in sentence-expansion with pictorialization was 26.13 with a standard deviation of 14.33. The mean gain score for number of sentence transformations for the control group in sentence-expansion was 19.87 with a standard deviation of 13.02 (Table 9). The three way analysis of variance yielded an F ratio of 8.89, a statistic beyond the

.01 level ($p = 0.0053$) (Table 13). This finding led to the rejection of the null hypothesis H_{044} . There is a difference in number of sentence transformations in narrative free writing between students who receive instruction in sentence-expansion with pictorialization and students who receive instruction only in sentence-expansion.

H_{045} = There is no significant difference in number of sentence transformations in narrative free writing between male and female students.

The mean gain score for number of sentence transformations for male students in narrative free writing was 21.39 with a standard deviation of 15.03. The mean gain score for number of sentence transformations for female students in narrative free writing was 24.04 with a standard deviation of 13.31 (Table 9). The three way analysis of variance yielded an F ratio of 0.00, a statistic beyond the .01 level ($p = 0.9528$) (Table 13). This finding led to the retention of the null hypothesis, H_{045} .

H_{046} = There is no significant interaction in number of sentence transformations in narrative free writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between prior achievement and method of instruction (Table 13). This finding led to the retention of the null hypothesis, H_{046} .

H_{047} = There is no significant interaction in number of sentence transformations in narrative free writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly greater number of sentence transformations when analyzed by high, middle or low achievement groups. The data obtained by this analysis indicated there was a significant interaction between sex and prior achievement (Table 12). The three way analysis of variance yielded an F ratio of 4.75, a statistic beyond the .01 level ($p = 0.0052$) (Table 13). This finding led to the rejection of the null hypothesis, H_{047} . Males that were high achievers performed better than middle or low achievers, male or females. The mean gain score for number of sentence transformations for high achievement males was 40.34. Females that were middle and low achievers performed better than middle or low achieving males (Table 12).

Table 12

Means for Number of Sentence Transformations for the Interaction of Sex and Achievement in Narrative Free Writing						
Achievement	N	High Mean	N	Middle Mean	N	Low Mean
Males	4	40.34	4	17.50	10	17.00
Females	11	19.7	12	25.50	5	30.5

H_{048} = There is no significant difference in number of sentence transformations in narrative free writing among high, medium and low achievement groups.

The mean gain score for number of sentence transformations for high achievers in narrative free writing was 22.67 with a standard deviation

Table 13

Three-way ANOVA Comparing Gain Scores for Number of Sentence Transformations in Narrative Free Writing						
Source	Sum of Squares	df	Mean Squares	F	p	
Group	1489.980	1, 34	1489.980	8.89	0.0053	*
Sex	0.597	1, 34	0.597	0.00	0.9528	NS
Achievement	369.374	2, 34	184.687	1.10	0.3439	NS
Group x Sex	580.769	1, 34	580.769	3.46	0.0714	NS
Group x Achievement	622.596	2, 34	311.298	1.86	0.1716	NS
Sex x Achievement	1591.43	2, 34	795.713	4.75	0.0052	*
Group x Sex x Achievement	355.546	2, 34	177.773	1.06	0.3575	NS
Error	5699.533	34	167.633			

* = significant at the .01 level

NS = not significant

of 15.87. The mean gain score for number of sentence transformations for middle achievers was 24.94 with a standard deviation of 14.81. While the mean gain score for number of sentence transformations of low achievers was 21.27 with a standard deviation of 11.25 (Table 9). The three way analysis of variance yielded an F ratio of 1.10, a statistic that was not significant beyond the .01 level ($p = 0.3439$ (Table 13). This finding led to the retention of the null hypothesis, H_{048} .

H_{049} = There is no significant interaction in number of sentence transformations in narrative free writing among method of instruction, sex of student and prior achievement.

The comparison of the method of instruction, sex of student and prior achievement was used to determine if male or female students as high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction among method of instruction, sex of student and prior achievement (Table 13). This finding led to the retention of the null hypothesis, H_{049} .

Expository Free Writing

H_{050} = There is no significant interaction in number of sentence transformations in expository free writing between sex of the student and method of instruction.

The comparison of the sex of a student with method of instruction was used to determine if males or females could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction between sex and method of instruction (Table 14). This

finding led to the retention of the null hypothesis, H_{050} .

H_{051} = There is no significant difference when using number of sentence transformations in expository free writing between students who receive instruction in sentence-expansion with pictorializing and students who receive instruction only in sentence-expansion.

The mean gain score for number of sentence transformations for the experimental group in sentence-expansion with pictorialization was 14.87 with a standard deviation of 18.88. The mean gain score for number of sentence transformations for the control group in sentence-expansion was 14.78 with a standard deviation of 18.33 (Table 9). The three way analysis of variance yielded an F ratio of 0.58, a statistic beyond the .01 level ($p = 0.4517$) (Table 14). This finding led to the retention of the null hypothesis, H_{051} .

H_{052} = There is no significant difference in number of sentence transformations in expository free writing between male and female students.

The mean gain score for number of sentence transformations for male students in expository free writing was 12.61 with a standard deviation of 10.97. The mean gain score for number of sentence transformations for female students in expository free writing was 16.25 with a standard deviation of 16.09 (Table 9). The three way analysis of variance yielded an F ratio of 1.21, a statistic beyond the .01 level ($p = 0.2786$) (Table 14). This finding led to the retention of the null hypothesis, H_{052} .

H_{053} = There is no significant interaction in number of sentence transformations in expository free writing between prior achievement and method of instruction.

The comparison of prior achievement with method of instruction was used to determine if high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a

particular method. The data obtained by this analysis indicated no significant interaction between prior achievement and method of instruction (Table 14). This finding led to the retention of the null hypothesis, H_{053} .

H_{054} = There is no significant interaction in number of sentence transformations in expository free writing between sex of the student and prior achievement.

The comparison of the sex of a student with prior achievement was used to determine if males or females could achieve significantly greater number of sentence transformations when analyzed by high, middle or low achievement groups. The data obtained by this analysis indicated no significant interaction between sex and prior achievement (Table 14).

This finding led to the retention of the null hypothesis, H_{054} .

H_{055} = There is no significant difference in number of sentence transformations in expository free writing among high, medium and low achievement groups.

The mean gain score for number of sentence transformations for high achievers in expository free writing was 11.60 with a standard deviation of 14.57. The mean gain score for number of sentence transformations for middle achievers was 18.44 with a standard deviation of 17.44. While the mean gain score for number of sentence transformations of low achievers was 14.20 with a standard deviation of 9.526 (Table 9). The three way analysis of variance yielded an F ratio of 1.41, a statistic that was not significant beyond the .01 level ($p = 0.2582$) (Table 14). This finding led to the retention of the null hypothesis, H_{055} .

H_{056} = There is no significant interaction in number of sentence transformations in expository free writing among method of instruction, sex of student and prior achievement.

Table 14

Three-way ANOVA Comparing Gain Scores for Number of Sentence Transformation in Expository Free Writing						
Source	Sum of Squares	df	Mean Squares	F	p	
Group	113.485	1, 34	113.485	0.58	0.4517	NS
Sex	237.388	1, 34	237.388	1.21	0.2786	NS
Achievement	552.002	2, 34	276.001	1.41	0.2582	NS
Group x Sex	410.104	1, 34	410.104	2.09	0.1570	NS
Group x Achievement	887.328	2, 34	443.664	2.27	0.1192	NS
Sex x Achievement	340.234	2, 34	170.117	0.87	0.4286	NS
Group x Sex x Achievement	88.161	2, 34	44.080	0.23	0.7996	NS
Error	6657.867	34	195.819			

* = significant at the .01 level

NS = not significant

The comparison of the method of instruction, sex of student and prior achievement was used to determine if male or female students as high, middle or low achievers could achieve significantly greater number of sentence transformations when instructed with a particular method. The data obtained by this analysis indicated no significant interaction among method of instruction, sex of student and prior achievement (Table 14). This finding led to the retention of the null hypothesis, H_{056} .

RELATED OBSERVATIONS

In this study, T-unit length was used as one measure of the dependent variable, syntactic maturity. Expository free writing produced the longest T-units, narrative free writing produced the next longest, narrative controlled writing the next longest and expository controlled writing the shortest. From examination of Table 15, it appears that positive changes occurred in the writing of both experimental and control groups. The pretest mean T-unit length for the experimental group was 6.58 words and the posttest mean T-unit length was 8.17 words. The pretest mean T-unit length for the control group was 6.60 words and the posttest mean T-unit length was 7.79.

Table 15

Summary of Mean T-unit Length			
	mean T-unit length pretest	Gain Score	mean T-unit length posttest
Experimental			
expository controlled	5.765	1.265	7.03
narrative controlled	5.570	2.435	8.01
narrative free	7.452	1.187	8.64
expository free	7.534	1.452	8.99
	$\bar{x} = 6.58$	$\bar{x} = 1.58$	$\bar{x} = 8.17$
Control			
expository controlled	5.652	0.7522	6.40
narrative controlled	5.326	2.135	7.46
narrative free	7.583	1.087	8.57
expository free	7.875	0.8304	8.71
	$\bar{x} = 6.60$	$\bar{x} = 1.20$	$\bar{x} = 7.79$

Number of sentence transformations was used as a second measure of the dependent variable, syntactic maturity. Children produced the greatest number of sentence transformations in narrative free writing, the next greatest in narrative controlled writing, the next greatest in expository free writing and children produced the least in expository controlled writing. Thus children produced a greater number of sentence transformations in narrative writing than they did in expository writing. For the experimental group, the pretest overall mean number of sentence transformations was 17.94 words and the posttest overall mean was 37.74 words, while the control group's overall pretest mean was 14.44 and the posttest mean was 29.99. From examination of Table 16, it appears that positive changes occurred in the narrative and expository free and controlled writing.

Table 16

Summary of Number of Sentence Transformations			
	Mean Number of Sentence Transformations Pretest	Gain Score	Mean Number of Sentence Transformations Posttest
Experimental			
expository controlled	12.13	11.57	23.70
narrative controlled	13.26	26.65	39.91
narrative free	21.52	26.13	47.65
expository free	24.83	14.87	39.70
	$\bar{x} = 17.94$	$\bar{x} = 19.80$	$\bar{x} = 37.74$
Control			
expository controlled	11.35	7.04	18.393
narrative controlled	10.83	20.48	31.31
narrative free	20.83	19.87	40.70
expository free	14.78	14.78	29.56
	$\bar{x} = 14.44$	$\bar{x} = 15.04$	$\bar{x} = 29.99$

SUMMARY OF FINDINGS

The researcher has reported the findings related to the relationship of the independent variables of sex, prior achievement, and group on the dependent variables of mean T-unit length and number of sentence transformations in narrative and expository free and controlled writing. The following summarizes these relationships.

1. Both experimental and control groups made gains on selected syntactic factors.
2. There was no significant difference in mean T-unit gain scores between the four modes of writing, but observation of the means showed that those students who received instruction and practice in sentence-

expansion with pictorialization had higher gains than those students who received instruction and practice in only sentence-expansion.

3. There was a significant difference in number of sentence transformations and narrative free writing. Students who received instruction and practice in sentence-expansion and pictorialization were significantly higher than those students who received instruction and practice in only sentence-expansion.

4. There was no significant difference in number of sentence transformations and the three other modes of writing but the observed number of sentence transformations was higher for the experimental group.

5. There were few significant interaction effects; the gains made by the students were not influenced by whether the students were in one group or the other, whether they were male or female, or their prior achievement. There was a significant interaction between sex and prior achievement in narrative free writing. High achieving males performed better than middle or low achieving males or females.

6. Children produced the greatest number of sentence transformations in narrative writing.

7. Children produced the least syntactic gains in expository controlled writing.

8. The mean length of T-units was affected by the mode of writing. The direction of the effect was as follows: Expository Free > Narrative Free > Narrative Controlled > Expository Controlled.

9. The number of sentence transformations was affected by the mode of writing. The direction of the effect was as follows: Narrative Free > Narrative Controlled > Expository Free > Expository Controlled.

Chapter V

IMPLICATIONS AND RECOMMENDATIONS

This study was designed to determine the relationship of instruction and practice of sentence-expansion with pictorialization on the syntactic maturity of grade six students. The written compositions of these students were compared with written compositions of grade six students who had received instruction and practice in only sentence-expansion. Of interest to this study was the interaction of sex and prior achievement to determine whether the differentiations in the instructional techniques were beneficial to a particular group.

As a result of the analysis of the data presented in Chapter IV, several conclusions were reached in terms of sentence-expanding programs, pictorialization and student writing.

CONCLUSIONS

1. A significant difference was found between the two sentence-expansion techniques in only one mode, narrative free writing. Students who received instruction and practice in sentence-expansion and pictorialization produced more sentence transformations than those students who received instruction and practice in only sentence-expansion.

There was no significant difference in the number of sentence transformations in the other three modes of writing; narrative controlled,

expository free and controlled writing. However, the observed number of sentence transformations was higher for the experimental group.

There was no significant difference in mean T-unit gain scores in the four modes of writing, but those students who received instruction and practice in sentence-expansion with pictorialization had higher gains than those students who received instruction and practice in only sentence-expansion.

The main observation emerging from the findings was that both techniques were effective in increasing syntactic maturity as represented by selected syntactic factors, mean T-unit length and number of sentence transformations in all writing modes. Thus, it may be concluded that both techniques are appropriate for elementary language arts programs.

2. In this study, T-unit length was used as one measure of syntactic maturity. Data from other studies were used to compare mean T-unit scores. Although both groups in this study made gains (posttest minus pretest), it appears that students in this study wrote shorter T-units in free writing than did students in other studies. In Hunt's (1965) study, grade four students averaged 8.60 words per T-unit. Perron (1976) found that grade four students averaged 8.15 words per T-unit. Grade seven students in O'Hare's (1973) investigation averaged 9.66 words per T-unit. These differences may be accounted for by the fact that these three studies developed a year long instructional program of transformational grammar activities, while it appeared that students in the present study were able to appropriately increase their syntactic performance as measured by T-unit length in a relatively short instructional period. Further, in

previous studies of sentence-building, researchers utilized a combination of sentence manipulation programs which included sentence-combining, sentence-expansion and sentence-substitution while this study was limited to only sentence-expansion techniques.

An observation of the results revealed that students who practiced sentence-expansion and pictorialization had higher mean T-unit gain scores in controlled writing than those students who practiced only sentence-expansion. However, the differences could not be statistically differentiated. In comparing data from Hunt's (1970) study of controlled rewriting, it was found that grade six students averaged 6.84 words per T-unit. It appeared that the experimental group in this study wrote longer T-units, 8.17 words per T-unit, than students in the Hunt (1970) study; while the control group in this study scored about the same, 7.79 words per T-unit, as Hunt's grade six students.

3. An additional measure of syntactic maturity was the number of sentence transformations. Overall observations demonstrated that students in both the experimental and control groups almost doubled the number of sentence transformations in both controlled and free writing from pretest to the posttest (Table 16).

Both Hunt (1965) and O'Donnell (1967) investigated the number of sentence-combining transformations and discovered that the number of transformations increased as subjects grew older. Hunt (1965) reported that the most important developmental trend was an increase in adjective clauses (a four fold increase from grade four to grade twelve). He

further stated that the nominal and adverbial transformations also increased significantly.

In examining the data for sentence transformations it appeared that students could be helped to write longer, more mature and interesting sentences in their composition through instruction and practice in sentence-expansion. It is beyond the scope of this study to formulate which type of transformation (nominal, relative and adverbial) produced the highest gain. The data were analyzed for cumulative transformations only. It may be that further analysis of these data could demonstrate which type of transformations were affected by the sentence-building programs.

4. Researchers have indicated the need to investigate the relationship of varying types of writing to syntactic complexity. Braddock (1963) stated that variations in modes of discourse may have more effect than variations in topics.

San José (1972) found that different modes differed significantly in T-unit measures. She found that children produced more mature language in expository writing than in narrative writing and that the mode was the significant relationship that contributed to syntactic complexity rather than other variables such as sex, intelligence, or reading scores.

Consistent with San José's findings (1972), this study confirms that writing mode is the variable that contributed to syntactic maturity in the two sentence-building programs. In this study, children produced the highest mean T-unit gain scores in expository free writing and produced the greatest number of sentence transformations in narrative

writing, both free and controlled. Children produced the least syntactic maturity in expository controlled writing, as measured by mean T-unit gain scores and number of sentence transformations. These findings also substantiate research by Maimon and Nodine (1978) who concluded that differences in syntactic skill could be attributable to types of writing.

5. Since the expansion and drawing activities were sequential in nature, they generally followed a narrative free writing mode; each completed set of expansions told a story. This may have been a factor that contributed to the significant difference found in the number of sentence transformations between the two sentence-expansion programs in narrative free writing.

A second factor as Moffett (1968) and Perron (1976) suggested was that elementary school students were most fluent in narrative writing because that was the mode in which they have had most practice, both in writing and in reading. (Examples of sentence-expansion with pictorialization appear in Appendix E).

6. This study was an exploration into the relationship of visual and verbal associations. Language according to Bruner (1967) predisposed the mind to certain modes of thought. Drawings, however, augmented and embellished the specific referents that go beyond words. In this study, observations suggest that pictorialization embodied a viewpoint, a way of looking at reality; by encoding ideas in drawing, the students in the experimental group were able to represent an idea more completely. Students were able to acquire a language flexibility, by using pictorial

symbols to move thinking and expression from abstract to concrete meanings; constructing drawings that were deliberate, detailed and sequential. Thus, the learner-produced drawings stimulated expansions and increased the number of embedded structures. (Examples of sentence-expansion and sentence-expansion with pictorialization are found in Appendix E).

Pictorialization not only revealed information about the student but also the nature of thought and problem-solving. Students in the experimental group, those who received instruction and practice in sentence-expansion with pictorialization used drawing as a pre-writing activity, a kind of rough map or idea sketching of what they intended to say in words. Pictorialization was the representation of an idea; language gave it its explicit meaning. Thus, students had access to two language systems, verbal and visual. If one language did not facilitate their thinking, they could use the other.

Initially students were instructed to draw their idea and then write a kernel sentence to describe the idea. Students were to continue drawing pictures to develop the initial idea and generate sentence-expansions. However, observations during the practice activities demonstrated that some students began with a drawing-writing sequence but would often reverse the process, writing first then drawing as expansions began to flow. Whenever ideas began to stagnate or "they were stuck" for new expansions, these students would return to a drawing first sequence. Students were using pictorialization to conceive, nurture and expand ideas. In other words, students were visually talking to themselves in order to discover and develop an idea worth communicating. Students used

drawing as a brainstorming activity. Although brainstorming was usually a verbal idea-generating activity, it could also take a visual form. According to McKim (1980) visual brainstorming was a basic strategy for exploratory graphic ideation and a remedial strategy whenever thinking had become stale. Thus, students in the experimental group translated thinking into both graphic and verbal language and were forced to consider and expand their concept in both modes. Therefore, pictorialization is recommended as a problem-solving activity, to help "get ideas off the ground."

7. The nature of the lessons was a unique feature of this study in that a multiplicity of methods, materials (including puppets) and exercises were used. Similar to Perron's (1976) conclusion, it appeared that these activity-orientated lessons were not only successful in encouraging syntactic growth, but they were also successful in motivating the students to manipulate language in an enjoyable fashion. The gains achieved by both groups demonstrated the value of semi-structured materials and games for a language arts curriculum. The informal nature of these activities combined with the structural exercises allowed for experiential language manipulation. The experiential exercises together with discussion concerning the reasons for and ways of manipulating sentences, phrases and parts of stories appeared to contribute to the overall gains.

In summary, the program seems to have been successful in the application of the point that "grammar needs to be combined with rhetoric" (Weaver, 1979, p. 87). Students need not only to practice ways of

building sentences but to discuss which ways are more effective and the reasons why. Thus, it can be concluded that an integrated instructional program in sentence building which involved the use of oral practice, cued and uncued linguistic approaches and a multiplicity of methods, materials and exercises was successful in increasing syntactic fluency in the writing of grade six students.

8. Although the study did not measure attitude of the students toward the two sentence-expansion instructional programs, observation of the experiential activities demonstrated that both programs were successful in motivating the students to manipulate language. All grade six students participating in the study were always eager to practice sentence-expansions or sentence-expansions with pictorialization. Students were keen to expand kernel sentences, add more specific details, and embed structures as well as orally share efforts with classmates. The classroom teacher identified four low achieving students (3 male, 1 female) in the experimental group who had previously been reluctant to participate in any oral or written language activities and as a result of overall low grade six performance were being retained for an additional year of remedial instruction. These four reluctant students participated willingly, volunteering to share their sentence-expansions and made gains in all measures of syntactic maturity. After three weeks of instructional programs, students in both groups wrote a collaborative letter to the researcher, which demonstrated the general student attitude toward the program. A sample is included in Appendix F.

9. These data concerning the relationship between students' sex and other variables led to the conclusion that sex was a factor in narrative free writing. High achieving males performed significantly better than any of the other groups in the number of sentence transformations. This finding confirms the research of Young (1971) who suggested that a differentiation of instructional techniques might be advisable for male students in writing instruction. High achieving males can apparently be helped to write longer, more mature and interesting sentences in their narrative compositions through instruction and practice in sentence-expansion techniques.

10. Correlations between prior language achievement scores and syntactic factors found in free writing and controlled rewriting indicated that gains were found at all ability levels. Students who scored low on prior achievement appeared to have an equal chance of gaining in syntactic maturity with both sentence building techniques. It may be concluded that such techniques were useful for improving student writing at any ability level. The Canadian Test of Basic Skills does not predict which students will make gains in syntactic maturity.

The findings of this study suggested that sentence-building techniques are effective and valuable during prewriting, writing, and rewriting stages, since they encourage writing that contains increased number of modifiers and embedded structures, as well as more specific details.

IMPLICATIONS FOR INSTRUCTION

Results of this study have added further support that there is value in having students practice sentence-building techniques. Since both sentence-expansion programs were demonstrated to be effective, educators could find these programs beneficial for implementation in elementary language arts curriculum.

As noted earlier, pictorialization should be considered an important part of the writing process. Educators need to be cognizant that a great deal of thinking and communicating takes place visually. Drawing helps to sketch ideas, to bring vague images into focus and to formulate the written word.

The nature of the instructional program which utilizes a range of multi-sensory approaches had implications for motivating students to write effectively as well as to improve their writing skills.

RECOMMENDATIONS FOR FURTHER RESEARCH

1. There was syntactic growth produced by both sentence-expansion treatments. Further research should determine whether gains made possible by this sentence-building program remain with the students over a longer period of time. Longitudinal studies are necessary in this regard.

2. Further research into the benefits of using sentence-expansion with pictorialization at the prewriting stage would be useful. It would be relevant to discover if younger students in the early stages of the writing process respond similarly to sentence building treatments.

3. Further research should be undertaken to determine the benefits of using sentence-expansion with pictorialization at the rewriting stage.

4. The three week period utilized by this study was a short period of time. Would similar results occur if the study took place over a forty-week period (the normal period of instruction for students to progress from one grade level to the next)?

5. Further research should be conducted to analyze which type of sentence transformations (nominal, relative or adverbial) are affected by instruction and practice in sentence-expansion with pictorialization.

6. A further question of interest relates to measuring student attitude towards language manipulating activities including sentence-expansion with pictorialization.

7. Researchers have confirmed that syntactic counts change from one writing mode to another. Further research is necessary to determine if pure modes occur to such an extent that syntactic development measures can have predictable levels of attainment over the grades.

8. Further research needs to be undertaken to determine the effect of pictorialization as a pre-writing activity in longer modes of discourse, such as in stories.

9. Castallanos (1980) demonstrated that pictures compensated for language difficulties. Further research is needed to determine if sentence-expansion with pictorialization would be of benefit to English as a second language students.

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APPENDICES

APPENDIX A

TEST INSTRUMENTS FOR CONTROLLED WRITING

WRITING EXERCISE

Read the following passage all the way through with your instructor and be sure to ask questions if you want anything explained further. You will notice that the sentences are short and choppy. Study the passage, and then rewrite it in a better way. You may combine sentences, change the order of words, and omit words that are repeated too many times, but try not to leave out any of the information. Use rough paper to jot down and organize your ideas. You have until the end of the period to complete the exercise.

Aluminum

Aluminum is a metal. It is abundant. It has many uses. It comes from bauxite. Bauxite is an ore. Bauxite looks like clay. Bauxite contains aluminum. It contains several other substances. Workmen extract these other substances from the bauxite. They grind the bauxite. They put it in tanks. Pressure is in the tanks. The other substances form a mass. They remove the mass. They use filters. A liquid remains. They put it through several other processes. It finally yields a chemical. The chemical is powdery. It is white. The chemical is alumina. It is a mixture. It contains aluminum. It contains oxygen. Workmen separate the aluminum from the oxygen. They use electricity. They finally produce a metal. The metal is light. It has a luster. The luster is bright. The luster is silvery. This metal comes in many forms.

WRITING EXERCISE

Read the following passage all the way through with your instructor and be sure to ask questions if you want anything explained further. You will notice that the sentences are short and choppy. Study the passage, and then rewrite it in a better way. You may combine sentences, change the order of words, and omit words that are repeated too many times, but try not to leave out any of the information. Use rough paper to jot down and organize your ideas. You have until the end of the period to complete the exercise.

A Fishing Trip

John went fishing. He went to Ghost Dam. His brother also went. They left Calgary at 6 a.m. It was cool. They took their boat. They took lunch. At noon they landed on an island. Storm clouds formed. They were in the west. A plane flew overhead. The sky became cloudy. The wind began to blow. They saw a plane. It flew near the water. It disappeared. John jumped into the boat. He started the motor. He headed toward the plane. Large waves rolled. John spotted the plane. Two men clung to the wing. John got closer. One man had a bloody face. John jumped into the water. He pulled the men from the water. They clung to the plane wing. Five hours passed. A helicopter flew overhead. It spotted them. They lowered a rope. They were rescued.

APPENDIX B

TEST INSTRUMENTS FOR FREE WRITING

A

WRITING EXERCISE

Plan your writing so that it is as clear as possible. Use rough paper to jot down and organize your ideas. Write your finished copy on the lined paper supplied. You have until the end of the period to complete the exercise.

Read the following passage all the way through with your instructor and be sure to ask questions if you want anything explained further.

A man like Daniel Boone was an expert on transportation in his day. He knew all about horses, coaches, canal boats and ships - and mostly his feet. Pretend that a time machine is bringing Daniel Boone back to visit the modern age. Your task is to bring him up-to-date on developments in transportation since his time. Write a report that you could give him, telling him about several means of transportation that have been invented between his day and our own. Tell him how they work, what they can do, where they go -- everything you think he would want to know.

WRITING EXERCISE

Plan your writing so that it is as clear as possible. Use rough paper to jot down and organize your ideas. Write your finished copy on the lined paper supplied. You have until the end of the period to complete the exercise.

Read the following passage all the way through with your instructor and be sure to ask questions if you want anything explained further.

We all enjoy an unusual story, especially the kind which holds our interest and makes us wonder what will happen next. Below are listed four titles. Choose the one which seems most interesting to you, and write a story that fits the title. Use your imagination to fill in the details, and make sure you tell the complete story, from beginning to end. Try to make it sound as if it really happened.

Stranded in a Ghost Town

Winning the Olympic Lottery

Trapped on a Roof

The Strangest Day Ever

B

WRITING EXERCISE

Plan your writing so that it is as clear as possible. Use rough paper to jot down and organize your ideas. Write your finished copy on the lined paper supplied. You have until the end of the period to complete the exercise.

Read the following passage all the way through with your instructor and be sure to ask questions if you want anything explained further.

A man like Benjamin Franklin was an expert on gadgets and appliances for the home in his day. He even invented a few new appliances himself, such as the famous Franklin stove. Pretend that a time machine is bringing Benjamin Franklin back to visit the modern age. Your task is to bring him up to date on developments in the home since his time. Write a report that you could give him, telling about several home appliances and gadgets that have been invented between his day and our own. Tell him how they work and what they can do - and everything else about them that you think he might want to know about.

WRITING EXERCISE

Plan your writing so that it is as clear as possible. Use rough paper to jot down and organize your ideas. Write your finished copy on the lined paper supplied. You have until the end of the period to complete the exercise.

Read the following passage all the way through with your instructor and be sure to ask questions if you want anything explained further.

Unusual stories are enjoyable. We all like stories which hold our attention and make us wonder what is coming next. Choose one title from the four listed below, the one which is most interesting to you. Fill in the details from your own imagination, and be sure to tell the whole story, from start to finish. Try to make it sound as if it really happened.

A Million Dollar Surprise

Caught in an Elevator

What an Unusual Day

Lost on Evil Island

APPENDIX C

SYNTACTIC MATURITY ANALYSIS SHEET

SCORING GUIDE
SYNTACTIC MATURITY ANALYSIS

Analyze the student writing samples by dividing them into T-units, ignoring all punctuation and using all words written in the sample. A T-unit is a main clause plus any subordinate clause or non-clausal structure that is attached to or embedded within it. Use Perron's (1974) rules for the T-unit segmentation.

In addition, take the following frequency counts to provide a more thorough syntactic analysis.

Frequency Counts

1. Total number of words
2. Total number of T-units--segment with red brackets
3. Mean T-unit length (number of words per T-unit)
4. Total number of nominal transformations--underline with green pen
5. Total number of relative transformations--underline with blue pen
6. Total number of adverbial transformations--underline with orange pen
7. Total number of Sentence Transformations--by adding 4, 5 and 6.

Put each total on the score sheet in the appropriate place after completing the above frequency counts.

NAME OF STUDENT _____ NAME OF WRITING _____

SYNTACTIC MATURITY ANALYSIS SHEET

- I. _____ Mean Length of T-units
- A. _____ Total Number of Words
- B. _____ Number of T-units
- II. _____ Number of Sentence Transformations
- A. _____ Number of Nominal Transformations
1. _____ Noun + Adjective
 2. _____ Noun + Possessive
 3. _____ Noun + Relative Clause
 4. _____ Noun + Preposition Phrase
 5. _____ Noun + Infinitive Phrase
 6. _____ Noun + Participle Phrase
 7. _____ Noun + Adverbial
- B. _____ Number of Relative Transformations
1. _____ Adjective of size
 2. _____ Adjective of color
 3. _____ Adjective of shape
 4. _____ Adjective of feel (texture)
 5. _____ Adjective of feelings
 6. _____ Adjective of condition (old, tired)
 7. _____ Adjective of motion
- C. _____ Number of Adverbial Transformations
1. _____ Adverb of Time
 2. _____ Adverb of Place
 3. _____ Adverb of Manner
 4. _____ Adverb of Cause
 5. _____ Adverb of Condition
 6. _____ Adverb of Comparison

APPENDIX D

FEATURES OF THE PROGRAM

FEATURES OF THE PROGRAM

1. Both cued and uncued problems were developed in the instructional lessons. Cued problems required the students to perform specific grammatical transformation, while uncued problems allowed the students to decide on the specific transformations to be used.

Students manipulated sentence frames, adding words from their own vocabulary in specific grammatical structures as signalled in the exercises as well as in positions of their choice in the sentence. An example from the program illustrates this point:

(1)

CUED: The Hippo ran along the path.

The 1 Hippo ran long the path. (add a descriptive word)

The 1 2 Hippo ran along the path.
(add a 2nd descriptive word)

The 1 2 Hippo 3 along the path.
(use a better action word)

The 1 2 Hippo 3 4 along the path.
(add a word to describe his action)

The 1 2 Hippo 3 4 along the path
5. (where is the path? Next to, beside,
near)

The 1 2 Hippo 3 4 along the path
5.
6 (when?)
7 (why?)
8 (what happened next?)

Rearrange: Using this model

6
7

The 1 2 Hippo 3 4 along the
 path 5 8.

(2)

The gorilla tripped on the trapeze wire.

Add: - that the gorilla was at the circus.

- that there was a large audience.

- that the gorilla was wearing a pink tu-tu.

The gorilla, wearing a pink tu-tu, tripped on the trapeze wire in front of a large audience at the circus.

(2a)

Another cued activity was building sentences by adding sensory words. Sensory words are words that convey sensory impressions: sound, smell, sight (color and action), touch and taste.

(3)

UNCUED:

Sensory Expansion

Word	Add a	Add a	Add a	Add a	Make a
	color	sight	touch	sound	sentence
		size	texture		
		shape			
		condition			

Example:

alligator green gargantuan prickly snorting

The gargantuan green alligator who was prickly and snorting roller skated down the sidewalk.

2. Problems were presented individually as well as in whole discourse sets. Exercises were given where students were required to add to a series of basic kernel sentences in order to create effective paragraphs and short stories. Examples are presented below:

Individual Problems:

The ghost floated lightly.

(expand kernel sentence)

Whole Discourse Sets:

In the early morning, they walked quietly like a panther through the woods searching for extra-terrestrial visitors when _____. Suddenly a sleeping green giant who _____ jumped out from behind a tree _____. They shivered in fear and _____.

(expand sentence)
(expand sentence)
(expand sentence)
(expand sentence)

3. Rewriting exercises required specific structures to be used in order to improve a given sentence, paragraph or longer units of discourse, as demonstrated:

Rewriting Exercise:

Can you rewrite this story by expanding the short and choppy sentences.

The Dog and His Reflection¹

A dog stole a lamb chop. He took it from his master's table. He rushed out of the house. He ran until he reached the woods. He carried the chop over a bridge. The dog looked into the stream. He saw his reflection. It looked like another dog. The other dog had a bigger lamb chop. He was greedy. He wanted that lamb chop. The dog made a loud growl. He opened his mouth. He tried to grab the lamb chop. The lamb chop fell into the water. It sank out of sight. Instead of two lamb chops, the dog had nothing.

CAN YOU WRITE A MORAL TO THIS TALE

1 - adapted from Aesop's Fables.

4. The use of grammatical terminology was minimized and all terms were carefully defined in simple terms accompanied by illustrative examples. This aspect of the program is demonstrated below:

Bears bicycle.

Where?

Bears bicycle to Banff.

When?

On Tuesdays, bears bicycle to Banff.

Describe bears.

On Tuesdays, big brown bears bicycle to Banff.

Why?

On Tuesdays, big brown bears bicycle to Banff
looking for blueberry bushes.

Can we rearrange the sentence
giving all the parts?

Big brown bears bicycle to Banff on Tuesdays
looking for blueberry bushes.

Add a new beginning.

Slowly but surely big brown bears bicycle to
Banff on Tuesdays looking for blueberry bushes.

5. Activities were developed which were experiential as well as semi-structured. These activities represented an attempt to put the practicing of isolated sentence problems into context so that students could be shown when and where to use them in meaningful situations, thus dealing with Moffett's (1968) concerns. For example, the game "Grab Bag" was adapted from his Interaction (1973) program, for use in the sentence-expansion component of this program. The task involved students reaching into the bag, grabbing an object and describing what they felt. Students were then asked to add more details to their initial statements. This approach satisfied in parts, the requirements for content-orientated, natural use of language. Another approach was the distribution of an animal hand puppet to each student and having them generate an alliterative kernel sentence describing their animal such as:

Brontasauraurus bakes

Students then added more alliterative transformations:

Big beautiful brontosauraruses from Balzac
bake biscuits for breakfast

Throughout the program, the focus was on active involvement in the writing process, either through student's writing the best combinations or discussing alternatives. An example of semi-structured transparency activity is presented here:

Semi-Structured Activity



Write a sentence about this cowboy. Then add details to your sentence to describe the cowboy.

What kind of a cowboy is it?

What is this cowboy doing?

Who is he riding?

Where do cowboys usually ride?

When is the cowboy riding?

How is the cowboy riding?

6. Systematic oral exercises were provided which involved students in the discussion of options for writing. Concepts were reinforced through reciting sentence solutions, listening to options available, and making judgments and selections after discussing alternatives presented. This aspect of the program is exemplified below:

Sentence Strip

The class will be divided into groups of four students in each row. The first student will begin by writing a kernel sentence and passing the sentence strip to the next student in the row. Each student will add an expansion. When finished, students will share their sentences.

7. A multiplicity of instructional methods and materials were used to develop the concepts. Poems, games, slides, tapes, overhead transparencies, pictures, word cards, and concrete objects were used in

a semi-structured manner. Examples of this are listed below:

Poem:

I like colors -

The green of the grass after a warm
spring shower.

The blue of the sky on a cool summer day

The brown like a beach on a scorching
afternoon.

The orange of the fire as it spits on
the hearth

I like colors.

Make a new poem:

Try

I like sounds -

I like shapes -

I like hockey -

Game:

Sentence Clothesline

Object of the Game: The students will expand kernel
sentences making transformations at the begin-
ning, middle and end.

Number of Players: whole class

Materials Needed: Clothesline, blank cards, felt
pens, clothespins

Directions for Play: Each player is given a blank card, felt pen and clothespin. A clothesline is strung across the room containing a kernel sentence such as:

The motorbike stalled.

Players will expand the kernel sentence by taking turns pinning on their word, arranging and rearranging each and every expansion.

Overhead Transparency sample:

Writers use interesting comparisons to make their writing more colorful. Sometimes they use similes to suggest that two things are alike in some way. Similies often use the words like or as.

Eyes like diamonds

A voice as loud as thunder

Similes

As cold as _____ What is the coldest thing you know?

As soft as _____

As sharp as _____

As big as _____

As rough as _____

As dirty as _____

As juicy as _____

As sneaky as _____

Write an expansion using a simile.

Stories:

Listen to the story of Pegasus, The winged Horse, on the tape. Write one sentence telling what happens in the story. Add to your original sentence using sentence-expansion techniques. Be prepared to share your sentence with your classmates.

Use of Concrete Objects:

Popcorn

Teacher pops fresh popcorn in the class.

Each student is given some fresh popcorn and told to observe it closely.

Start with sight.

Write a sensory description of what is observed.

The popcorn looks like little pillows.

Now, touch it.

Write a sensory description of what is observed.

Popcorn feels like soft bed sheets.

Now taste it.

Write a sensory description of what is observed.

Popcorn tastes like mountains of butter.

Now smell it.

Write a sensory description of what is observed.

Popcorn smells like a circus.

Now listen to it as you crunch it.

Write a sensory description of what is observed.

Popcorn sounds like loud cannons.

Students then make popcorn shaped booklets to

write their observations.



SEQUENCE OF THE LESSONS

In general, sentence-building programs tend to present the various syntactic constructions to be taught in several different ways and sequences. The researcher developed a sequence of instructional lessons which addressed nominal, relative and adverbial transformations as well as introducing conjunctions and connectors.

APPENDIX E

STUDENTS' WRITING SAMPLES

Cars guzzle gas

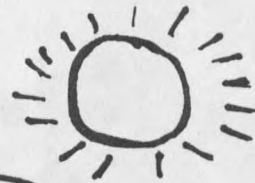
freddie

Gulp! Gulp!



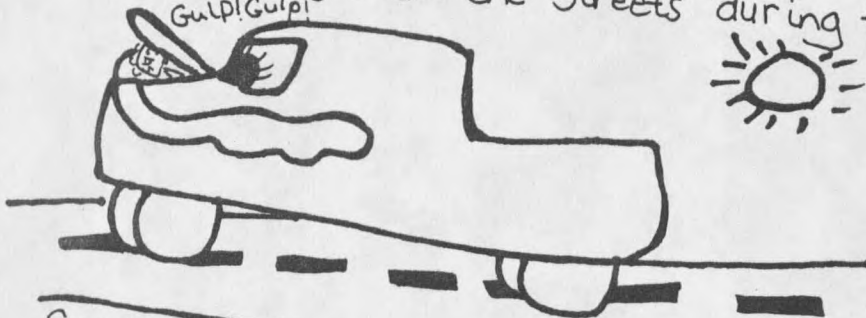
Cars guzzle gas during the day

Gulp! Gulp!



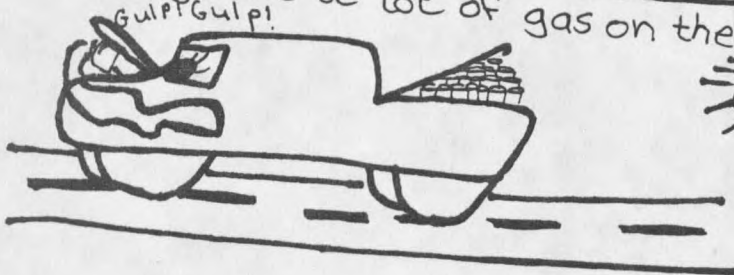
Cars guzzle gas on the streets during the day

Gulp! Gulp!

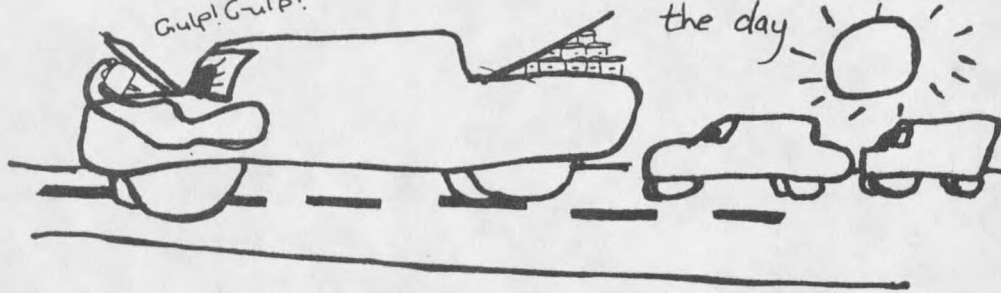


Cars guzzle a lot of gas on the streets during the day

Gulp! Gulp!



Cars guzzle a lot of gas on the busy streets during
the day



The Gorilla ran.

Laure



The green gorilla ran.



The green gorilla ran gracefully.



The gigantic green gorilla ran gracefully



The gigantic green gorilla ran gracefully while gargling



The gorgeous, gigantic green gorilla ran gracefully while gargling



Jennie

Farley Fox ran.

Farley Fox ran swiftly.

Farley Fox ran swiftly down the path

Farley Fox ran swiftly down the path as his wife, Georgina, chased after him.

Farley Fox ran swiftly down the path as his wife, Georgina, chased after him with a club in her mouth.

Farley Fox ran swiftly down the path as his wife, Georgina, chased after him with a club in his mouth because he didn't bring a rabbit home for dinner.

Andy

The dog and his reflection

An evil but beautiful dog stole a juicy, mouth-watering lambchop. He grabbed the delicious lambchop by his razor sharp pearl-white teeth. Sparky, the dog, scampered through the cabin and out into the blazing hot sun. He rushed across the open field and over the busy pond that was overpopulated with blood thirsty mosquitoes. Finally Sparky reached the haunted woods, so welcoming and deceiving. He ran with all his might to the bridge which crossed over a stream. The glowing sun made the stream sparkle like the blue of the ocean with silver bubbles dancing. The curious dog looked in the stream and suddenly saw another dog just like him carrying a lambchop. But ohhh! The size was gargantuan compared to his and looked luscious! When Sparky saw this he became very greedy and wanted both lambchops for himself. He opened his mouth and made a window-shattering growl but dropped his lambchop into the stream never to be seen again by the dog or his master but only by the fish. Now Sparky stared into the stream having no lambchops at all.

Moral: Never want more than you need

APPENDIX F

STUDENTS' LETTERS

April 29, 1983

Dear Mrs Wason-Ellam

Thank you for coming to teach
us. Its been a very enjoyable 3 weeks.

Anouk: I hope that you continue
to make kids as happy
as you made me feel.

Jocelyn: Thanks for helping me
improve my writing.

Rhonda: Thank you for teaching us and I hope
you would come back and teach us again.

Shelly B. Thank-you for teaching us and I loved
your puppets, especially the
tarantula.

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