

AN ANALYSIS OF FOUR FACTORS IN THE WRITTEN
EXPRESSION OF POOR WRITERS IN THE
SIXTH GRADE AT TWO READING LEVELS

A Thesis
Presented to
the Faculty of Education
University of Manitoba

In Partial Fulfillment
of the requirements for the Degree
Master of Education

by
Mary Anne Cahill
September, 1987

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MARY ANNE CAHILL

A thesis submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
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MASTER OF EDUCATION

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ABSTRACT

An Analysis of Four Factors in the Written Expression of Poor Writers in the Sixth Grade at Two Reading Levels

Mary Anne Cahill

A number of research studies have established a general correlation between reading ability and writing competence. However, the precise nature of this relationship has not yet been verified. Evidence also exists that for approximately fifteen to twenty percent of the student population, this parallel growth in reading and writing skills fails to occur.

Sentence structure, vocabulary level, and the degree of mastery of the mechanics are significant factors affecting the overall quality of written expression. This study investigated the possible connection between each of the above factors and the reading ability of a group of poor writers in the sixth grade with average reading skills and a second group of poor writers in the same grade with below average reading skills. The comprehension subtest of the Canadian Tests of Basic Skills was the reading measure. Two writing samples in the narrative and argumentative modes respectively were graded independently for overall quality by three qualified teachers. The same compositions, revised to correct the omission of required capitalization and end punctuation as sentence markers, were also graded holistically by three other qualified

teachers. The original compositions were analyzed to determine the level of syntactic maturity as measured by mean length of T-unit and level of vocabulary as measured by word frequency rating as indicated by the American Heritage Word Frequency Book.

A significant difference at the .01 level was found between the overall quality of the compositions of the two groups in the narrative mode. A significant difference at the .01 level was found between the unrevised and revised compositions of each group in the argumentative mode. No significant differences in syntactic maturity or vocabulary were found in the revised compositions in either mode.

The results confirm a positive correlation between reading ability and the overall quality of the narrative compositions of poor writers at this grade level. Both groups displayed an understanding of story schema but appeared to have difficulty with the organization and development of ideas in the argumentative mode. No conclusive evidence was found of a correlation between mechanical correctness and reading ability. No apparent correlation was established between reading ability and the syntactic maturity or vocabulary level of poor writers at this level in either mode.

The study concluded that further research with larger sample populations and at varied grade levels was required to confirm these findings. More precise measures of reading ability and vocabulary level were recommended.

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CHAPTER 1

The Problem

Background to the Study

Authorities such as Artley (1950), Britton (1970) and Tierney and Pearson (1983) in the fields of both language and reading have long regarded reading and writing as discrete but interrelated language processes. As such, a connection has been assumed between writing competence and reading ability with respect to overall language facility, or more specifically with respect to syntactic maturity, vocabulary development, a sense of style, and the gradual internalization of the conventions of written language.

Relevant to an investigation of the connection between writing competence and reading ability is a discussion of the major factors affecting the development of language skills as well as a theoretical model of the reading and writing processes which reflects their interdependence.

Because of the inherent unity of the four verbal-language arts, the acquisition of language must be considered not merely as the development of oral language skills, but rather as a single continuous process of learning how to mean extending beyond spoken language to include the development of written language as well (Vygotsky 1978; Parker 1983). It is from this perspective that the topic of language development is addressed in this study.

While acknowledging this oral/written language continuum, however,

it is important to note the fundamental differences which exist between oral and written language forms. Speech, unless electronically preserved, is transitory and often spontaneous, aided by the shared prior knowledge and the interaction possible between speaker and audience as well as non-verbal cues and intonation in clarifying and elaborating ideas. Written language, on the other hand, is more abstract and permanent with the intended audience being more remote in time and space, and sometimes unknown. While more able to deliberate and revise his or her product, the writer must rely upon semantic cues, text organization, and the rules of syntax, punctuation, and spelling in transcribing intended meaning in a cohesive and coherent fashion. While building upon their oral language base, students must also acquire new strategies to process written language effectively (Simons and Murphy 1986).

Current theory regards the acquisition of language as a function of general cognitive development (Moskowitz 1978). Various faculties of the brain work together to enable the individual to process and categorize linguistic input to arrive at the principles governing it, and to apply these principles in the production of communication (Slobin 1966; Chomsky 1975). The present understanding is that language development involves many different competencies and skills, and that the rate of development in each of these may vary due to a complex interaction of hereditary, constitutional, and environmental factors (Carroll 1971).

The apparently innate ability to process language points to the influence of physical and intellectual maturation occurring in definite stages over an extended period of time. Piagetian theory delineates various overlapping stages of cognitive growth, the transition from one

stage to the next being marked by well-defined behaviours of the previous stage and the emerging traits of the next (Raven and Salzer 1971).

Of particular significance to this investigation is the fact that grade six students of average ability will have reached the concrete-operational stage of mental development and will be approaching the stage of formal operations beginning the transition to adult-type thought processes. At this age level, the student becomes increasingly capable of sequencing ideas, and of perceiving component parts both as distinct from and in relation to the whole, thus being capable of considering a problem from several different perspectives (Charles 1974). The student is therefore able to manipulate language and to think about it and analyze it in increasingly abstract terms, and to develop a more conscious awareness of the relationship between its form and content. The student is thus potentially capable of recognizing and appreciating the word choice, conventions, and elements of style encountered in written form in his or her reading.

In the development of language, studies point to the period between the ages of ten and thirteen as a period of instability followed by growth to new and more stable levels of performance. This period coincides with the transition point as indicated by Piaget from concrete-operational thought to the stage of formal operations (Palermo and Malfese 1972). During this period, large increases in new grammatical constructions and high error rates in some kinds of constructions are evident. It is proposed that either cognitive development has not yet reached the stage where the incorrectly used linguistic forms have meaning for the individual or that he or she has not yet discovered the ap-

propriate linguistic forms required to express intended meanings. If the latter be the case, reading experiences may be one method of increasing the possibility of exposure to such linguistic features in their written forms. One would expect that good readers would be likely to spend more time reading than students who find this process difficult. Thus good readers are potentially more apt to benefit from such exposure.

The quality of the individual's language environment is also a significant determiner of language competence. The individual learns language through imitation, gradually forming generalizations instinctively through the feedback and reinforcement received in attempts at interaction with others in a variety of communication contexts (Ruddell 1970; Athey 1971). The child's attempts at language are thus over time shaped and extended to approximate adult norms of syntax and vocabulary. It is possible that the individual's interaction with print may in similar fashion enhance writing ability by providing appropriate models of written language used in functional and meaningful ways.

The population of this study included a number of students from what might be termed a low socio-economic environment and /or a non-English background. In general, children from a lower socio-economic environment tend to be linguistically at a disadvantage in relation to the standard English dialect of the school setting. Such children, perhaps lacking adequate language models, tend to experience difficulty both in expanding and refining vocabulary and in developing a more extensive repertoire of syntactic structures to express intended meaning (Bernstein 1960-1; Carroll 1971; Loban 1976).

Students from a non-English background require from five to seven years on the average to approach grade level norms in English cognitive skills (Cummins 1984). These students may also possess a limited vocabulary and experiential background to bring to writing tasks and may also be deficient in the ability to organize written language in proper syntactic structures.

Because their oral communication skills appear to function adequately to meet their daily needs, it is sometimes wrongly assumed that students from a lower socio-economic or non-English background will be able to cope with the demands of written language as well. For such students in particular, exposure to a variety of print materials may prove a viable means of increasing their facility with language by providing them with accepted models in written form.

Of particular concern to this study is the relationship between writing and reading. Current thinking regards both as active processes of meaning construction (Emig 1977; Tierney and Pearson 1983; Wittrock 1983). Both the reader and the writer must make use of prior knowledge and experiences along with an understanding of the three cue systems related to language in its written form. These include graphophonic cues related to the symbols used to represent letters and words, semantic cues related to the individual's familiarity with the meanings of words and associated concepts, and syntactic cues related to the individual's knowledge of language structure. Underlying both processes are common cognitive and language skills.

Although sharing a common cognitive-linguistic base, the two processes are "clearly separate and distinct" (Birnbaum and Emig 1983). In

order to encode ideas into appropriate surface structures, the writer must apply all three of the language cue systems noted above. The reader, on the other hand, depending on his or her understanding of the language structure and extent of prior knowledge related to the topic, as well as the degree of redundancy of cues within the given text, may be able to decode the deep structure or meaning without necessarily making use of all the cues available within the surface structure (Goodman 1976). Writing is defined by Emig (1977) as "originating and creating a unique verbal construct that is graphically recorded" while reading is defined as "creating but not originating a verbal construct that is graphically recorded" (p. 123).

Because the reading and writing processes are interrelated cognitively and linguistically, they are potentially mutually supportive. The present study attempted to investigate the specific areas of correlation.

Stotsky (1983) and Belanger (1987) in their review of studies employing a wide variety of reading and writing measures and focussing upon diverse age levels have confirmed that a positive correlation does indeed exist between writing ability and reading ability. In general, the student who is a good writer is also a good reader, while a poor writer will also experience difficulty with the reading process. It is important to note, however, that as the conclusions reached in such studies are generalizations derived from large sample averages, exceptions will be found within the sample populations. Studies by Loban (1963), Belanger (1978), and Tierney and Leys (1984) which have ranked students separately on writing ability and reading ability have shown

that for between fifteen and twenty percent of the subjects, the level of proficiency in either writing or reading does not parallel ability in the other process. Thus within this sub-group will be found students who have poor writing skills but satisfactory reading ability. It is the average range of students in this sub-group that is the concern of the present study as compared to those students who have difficulty with both the writing and reading processes.

Significance of the Study

In addition to the thought content the sentence structure, vocabulary, and the degree of mastery of the mechanics of written language have been identified as significant factors influencing the overall quality of written expression (Diederich 1974). Language arts teachers are faced with the problem of determining the most effective methodology for improving their students' writing in each of these areas. While a general correlation between the reading and writing processes has been established, the exact nature of the connection between writing competency and reading ability has not yet been clearly defined. At issue is whether developing the students' reading ability is a viable means of affecting an improvement in any or all of the factors listed above, or whether direct teaching of some of these aspects will be required.

The present study attempted to provide further insight as to the specificity of the relationship between writing ability and reading ability by determining whether divergent traits which might possibly be attributed to the difference in reading ability could be identified in

the written expression of the two groups of poor writers described above. As well, any commonalities found to exist in the writing of the two groups might help to determine specific qualities of the writing process which appear to exist independently of reading ability. Such information may assist in the development of relevant curricula and the structuring of teaching procedures and classroom experiences in order to increase the overall effectiveness of instruction leading to potentially greater and more rapid growth in writing ability. To date, a review of the literature has uncovered no study corresponding specifically to the present one.

Statement of the Problem

The intent of this study was to discover whether significant differences exist between the writing of those students who have been identified as having poor writing skills but good reading skills and those students who have both poor writing skills and poor reading ability. More specifically, the following hypotheses were investigated:

1. There is no difference between the overall quality of the writing of poor writers who are good readers and poor writers who are poor readers in overall quality.
2. The writing of the two groups will not differ once mechanical errors of capitalization and end punctuation as sentence markers have been eliminated.
3. The writing of the two groups will not differ in syntactic maturity as measured by mean length of T-unit.

4. The writing of the two groups will not differ in maturity of vocabulary as determined by word frequency rating.

Limitations of the Study

The major limitations of this study were:

1. The size of the potential sample was dependent upon the number of students in the designated classes who met the established criteria for selection.
2. The size of the actual sample was limited to the number of identified students from whom parental permission to participate in the study was obtained as required by the policy of the school division concerned.
3. The teacher variable could not be controlled in this study. Three teachers were involved.

Delimitations

The major delimitation of this study was:

1. Spelling and handwriting were not considered in the evaluation of the students' compositions in order to focus the attention of the markers upon the four factors under investigation.

Design of the Study

Selected students from three grade six classes in an inner-city school were identified as good readers or poor readers based upon their scores on the comprehension subtest of a standardized test battery. Good readers were identified as those students scoring at the fifth and sixth stanines on the comprehension subtest while poor readers were identified as those students scoring at the third and fourth stanines on the same subtest. These classifications correspond to those employed by Chall and Jacobs (1983) in their study of the writing and reading achievement of students of low socio-economic status. This range of stanines was selected to exclude either highly precocious students or those with possible learning disabilities.

The students' writing ability was assessed by means of two writing samples in the narrative and argumentative modes respectively which were written as regular class assignments. Typed copies of these assignments with spelling errors corrected were graded holistically by three qualified teachers. The compositions of those students whose combined score on the two writing assignments indicated that they were experiencing difficulty with the writing process were then analyzed by the writer with respect to syntactic maturity and maturity of vocabulary. Edited versions of the students' compositions with errors of capitalization and end punctuation as sentence markers corrected were then graded holistically by three other qualified teachers in an effort to determine whether elimination of such errors would affect the score assigned to the compositions of each group of students.

The data thus obtained were analyzed by the writer to determine possible differences in the written expression of the two groups of poor writers.

Definition of Terms

Good Readers

Students scoring at the fifth and sixth stanines on the comprehension subtest of the Canadian Tests of Basic Skills, Multilevel Edition, Form 3

Holistic Scoring

The evaluation of a piece of writing based upon the total first impression made on the reader

Mechanical Errors

For purposes of this study limited to the omission of required capitalization and end punctuation as sentence markers

Poor Readers

Students scoring at the third and fourth stanines on the comprehension subtest of the Canadian Tests of Basic Skills, Multilevel Edition, Form 3

Poor Writers

Students receiving a composite score of 3.3 or less based on the holistic scoring of two of their writing assignments by three teachers experienced at the relevant grade level

Syntactic Maturity

The level of growth in the ability to manipulate increasingly complex

structures for the purpose of expressing relationships between ideas fluently, accurately and concisely, as determined by mean length of T-unit

Vocabulary Maturity

The level of growth in the individual's known words and meaning as evidenced by the total number of words in the two writing assignments having a frequency rating at the grade six level of less than fifty as determined by the American Heritage Word Frequency Book

Overview of the Thesis

Chapter two will discuss the development of syntax and vocabulary and commonly held assumptions as to the connection between writing competence and reading experience. Also discussed will be various research studies which have investigated this relationship. Chapter three will outline the procedures used in the present study. Chapter four will discuss and interpret the findings. Chapter 5 presents the conclusions and implications for both instruction and further research.

CHAPTER 2

Literature and Related Research

The intent of this study was to determine whether there are significant differences between the written expression of poor writers who have satisfactory reading skills and that of poor writers who are also poor readers. A review of the literature has not revealed any studies concerned with this specific topic. However, relevant to the present study is a discussion of the development of syntactic maturity and vocabulary, as well as commonly held assumptions regarding the positive influence of reading upon writing competency. Also relevant is a discussion of existing research investigating the correlation between measures of reading ability and writing skill and those studies concerned more specifically with the correlation between reading ability and the degree of syntactic maturity found in written expression. This chapter concludes with a review of several studies which have examined the connection between direct reading instruction and/or increased or specialized reading exposure upon the quality of writing.

Related Theory

By school age, a child is said to have gained control of the basic sentence patterns of the language (Menyuk 1963; Cazden 1969). However, the development of syntactic control continues throughout the school years and even beyond as individuals acquire a more conscious awareness of their language knowledge and master increasingly complex structures (Carroll 1971; Palermo and Malfese 1972; Loban 1976). Considerable

variation is to be found in both individual performance and rate of development. This variation may stem from differences in maturation or from nonlinguistic variables specific to the individual or to his or her environment (Chomsky 1965).

The degree of complexity of syntactic structures is considered to be indicative of the level of syntactic maturity, the ability to use a variety of appropriate syntactic strategies to express intended meaning. In his longitudinal study of the oral and written language of students from kindergarten to grade twelve, Loban devised the communication unit as the basic measure of segmentation in determining the complexity of syntactic structures. This communication unit consisted of an independent clause with its modifiers. Loban found that the average number of words per communication unit was one of the most significant measures of the development of control over syntax (Loban 1963).

With specific reference to written language, Hunt introduced a new objective measure, the minimal terminable unit or T-unit, in his investigation of the developmental trends with respect to the frequency of various grammatical structures in the written compositions of students in grades four, eight, and twelve. The T-unit consists of one independent clause and the dependent clauses attached to or embedded in it. Hunt found that the most significant index of syntactic maturity was mean length of T-unit (Hunt 1965). His later study involving students in grades four, six, eight, and twelve supported this conclusion (Hunt 1970). At each higher grade level, students wrote longer T-units containing more combined or consolidated sentences.

Hunt's studies provided the methodological framework for much of the subsequent research regarding syntactic development. A study by

O'Donnell et al (1976) investigating the development of syntactic structures in kindergarten and grades one, two, three, five, and seven confirmed that the length of T-units increased from grade to grade. This study also indicated that at grades five and seven, the syntactic complexity of written language was superior to that of speech. However, there may be a difference between a student's language competence or understanding of language and his or her performance or actual use of language in specific situations (Chomsky 1965, pp. 3-4). Moreover, some students who may appear to have adequate syntactic skills with respect to oral language may not be able to transfer such fluency easily to written language structures (Fagan 1971).

Thus the use of the T-unit as a determiner of syntactic maturity is appropriate for use in the present study. Such a measure eliminates two problems often encountered in analyzing the work of immature writers--the omission of capitalization and end punctuation as sentence markers or the stringing together of thoughts as simple parallel statements connected by a series of "ands". The T-unit as a measure of syntactic maturity is not dependent upon correctness of form.

It has also been shown that the syntactic complexity of writing varies with the mode of discourse. Writing in the argumentative mode appears to produce more complex structures than narrative writing. A study of students at the fourth grade level (San Jose 1972) found that the syntactic complexity as measured by T-unit length was greatest in argument followed by exposition, narration, and description respectively. A later study involving sixth and tenth graders also found that argumentative writing produced the greatest differences in syntactic

complexity at each grade level while no differences were found between grades six and ten in the narrative mode (Crowhurst and Piche 1979). The present study examined students' writing in both the argumentative and narrative modes.

Semantic development, like all other aspects of language, is also dependent upon genetic and environmental factors. While an intricate relationship exists between vocabulary growth and conceptual knowledge (de Villiers and de Villiers 1978), environmental influences also come into play resulting in wide differences in opportunity to practise and to learn (Carroll 1971). A distinction must be made between the individual's receptive vocabulary -- the words whose meaning or meanings can be recognized when heard or read, and expressive vocabulary -- the words which are likely to be used in speech or in writing. The level of vocabulary development may differ in each of these areas.

The rate and extent of vocabulary development are difficult to measure. Depending upon the criteria and methodology used by various researchers, estimates of the vocabulary already acquired by an average child upon entering school may range between 2500 to 26,000 words (Anderson and Freebody 1979). There is general agreement, however, that development in this area continues beyond the very rapid growth evident during the pre-school years extending even into adult life (Petty et al 1967; Carroll 1971; Anderson and Freebody 1979). This development includes not only the acquisition of new words, but also the progressive refinement of meaning from the generalized or extremely restrictive connotations attached to a word in the early years to an understanding of the nuances and subtle distinctions associated with adult convention-

al meanings.

Direct instruction has been proposed in the literature as the most effective means of vocabulary development (Petty et al 1967). However, the viability of this approach is limited by time constraints when matched with the vast number of words to be learned as well as the problem of encouraging the application of the acquired vocabulary in specific instances. Therefore, considerable vocabulary must be developed incidentally over a period of time (Castle 1986).

Reading experience is frequently recommended as an effective means for this learning to take place (Nagy et al 1985; Castle 1986). Good readers are most likely better able to make use of reading contexts as a means of developing vocabulary. The present study investigated the possible correlation between reading ability and the vocabulary level of the students' written compositions.

Frequent and varied reading experiences are considered to have a positive influence upon writing ability. Reading is said to be a viable means of extending the individual's linguistic resources which can then be tapped during the writing process. Through reading, the individual is able to internalize over time the basic patterns and principles and the various conventions of written language (Britton et al 1975; Falk 1979; Flynn 1980; Smith 1983). Such conventions have been categorized as including text organization, language appropriate to one's purpose and audience, the various devices to ensure cohesion, and the surface features of spelling and punctuation (Butler and Turnbull 1984). It is suggested that the first forms to be internalized would be those of narrative, being more closely connected to one's early experiences with

print. Later, this internalization is said to become increasingly varied according to one's particular reading interests (Britton et al 1975).

It has been suggested, however, that a specialized manner of reading is required if this internalization is to take place. One must learn to "read like a writer" responding to textual form as well as content (Smith 1983, p. 562). Church and Bereiter (1983) agree that reading in this specialized manner would aid in the development of a sense of style and the ability to manipulate language to create desired effects. Such influences tend to occur only as the reader becomes increasingly proficient and flexible (Goodman and Goodman 1983).

The development and refinement of vocabulary is also seen as a positive outcome of reading experience (Schonell 1942; Britton 1970; Nagy et al 1985; Castle 1986).

Along with reading experience, some form of direct instruction with respect to prose structure (Schonell 1942; Belanger 1987) and vocabulary (Petty et al 1967) is viewed as essential to improve writing performance. The authors of the Bullock Report (1975) conclude:

We believe that extensive reading and writing are of prime importance for language growth but that they should be supported by explicit instruction. We cannot accept that the development of language can be left to chance on the principle that a "relevant moment" will occur. (p. 172)

Research Studies

Investigations of the specific relationships between writing compe-

tence and reading skill have been undertaken at various grade levels and have employed diverse measures of both writing and reading ability.

As part of a longitudinal study of the language development of selected students from kindergarten to grade six, Loban (1963) analyzed samples of their writing beginning at the grade three level. A high interrelation between writing and reading ability became apparent by the upper elementary grades. Loban reported that "those who read well also write well; those who read poorly also write poorly" (p. 75).

However, it is important for purposes of the present study to note that exceptions to the above statement can be found within his large sample population. As indicated by Stotsky (1983), twenty-six percent of the highest grade four readers and twenty percent of the superior readers at the grade six level in Loban's study were found to be inferior in written expression.

Similar exceptions were noted by Belanger (1978) in his study which compared the reading scores of four groups of grade nine and grade ten students with their scores on an expository writing sample with respect to overall quality, syntactic measures, and fluency. For fifteen percent of the comparisons made, the group ranking first on one measure ranked fourth on the other. Tierney and Leys (1984) found in their study that approximately twenty percent of the grade three students who were ranked in the first quartile for reading or writing were ranked much lower, usually towards the bottom of the second quartile or in the third quartile for writing or reading respectively.

A number of other studies have confirmed Loban's findings that, for a majority of students, reading and writing abilities are related. An early study by Schonell (1942) involving a school population found that

poor readers were generally also experiencing difficulty with written composition as well. An examination of a sub-group of 109 poor readers ranging in age from eight to thirteen years revealed that those who made progress in reading also showed considerable improvement in their writing skills.

In a study of over 500 grade three students, Woodfin (1968) concluded that one of the best consistent predictors of writing quality was the students' reading ability. Shanahan (1980-1) found that at the grade two and grade five levels reading level differences distinguished more clearly the relationship between writing and reading than did grade level differences. He found that at the grade five level, this relationship was based largely on the vocabulary diversity and organizational complexity of the students' writing. In a case study of students in the fourth and seventh grades, nominated by their teachers as good readers and writers, Birnbaum (1981) found that subjects rated as more proficient in reading performances rated more highly in writing ability as well with respect to audience response and stylistic and rhetorical devices.

Chall and Jacobs (1983) investigated the connection between writing ability and the reading achievement of students of low socio-economic status. Thirty students in each of grades two, four, and six were identified as either below or above average readers according to the stanine range used in the present study. Writing samples were evaluated on twelve measures including the overall holistic score, an evaluation of content, and such objective measures as average T-unit length and word frequency. The same students were then reassessed one year later.

Above average readers generally scored better in writing than the below average readers on most of the writing measures after grade three. Several results of this study are of special significance to the present study which also contains in its sample students of low socio-economic status. By grade seven, the content ratings of the above average and below average readers were found to be similar. At each grade level, and for both groups, the quality of the writing content was found to be considerably better than its form or structure, defined in the study as syntax, grammar, and mechanics. However, the below average readers appeared to have greater difficulty with the structure of writing. The discrepancy between the writing of good readers and poor readers was found to widen at successive grade levels.

A study by Maloney (1967) was designed to determine the qualities characteristic of superior writers at the grade nine level with respect to the expository mode. He found that superior writers were generally identified as achieving a high score on reading comprehension and were also found to read more frequently. These students made fewer mechanical errors in their writing and showed better organization and maturity of insight.

Grobe and Grobe (1977) found a significant relationship between the writing ability and reading ability of college freshmen. The writing of superior readers was less likely to contain incomplete sentences and errors in grammatical usage and was apt to be better organized and developed.

Using a somewhat different approach. Lazdowski (1976) assessed writing samples from students in grades seven to thirteen as a means of

estimating their reading achievement. Each writing sample was scored for readability using a number of standard formulas such as measures of vocabulary load, sentence structure, density of ideas, and syntactic complexity. A significant positive relationship was found between reading and writing ability. It was possible to predict reading ability within one grade level. A study by Bippus (1977) to determine the best indices of the written language performance of grade four and grade six students found a significant relationship between reading comprehension and certain aspects of the students' quality of language such as organization, idea content, and vocabulary.

Several studies, however, have found little correlation between reading and writing ability. Fischo (1977) compared the reading scores of grade seven students and the quality of their creative writing evaluated on the basis of a creativity scale he developed. Fischo concluded that reading comprehension did not appear as a significant main effect for creative writing scores. Thomas (1976) correlated the reading achievement with the writing achievement and sentence maturity of college freshmen. He found that reading ability and writing competence were only negligibly related. In his study of students in grades nine and ten, Belanger (1978) found no evidence of significant changes in writing skills including overall quality and T-unit length after significant changes in reading skill had occurred.

A number of studies have focussed more specifically upon the correlation between the syntactic complexity of students' writing and their reading ability. Evanechko et al (1974) used an experimental formula for indexing the written language of grade six students in order to

identify the specific language skills underlying reading performance. A standardized reading test was the criterion measure. Control of syntactic complexity was identified as a key language competency underlying reading achievement.

Other studies have confirmed these findings. Kuntz (1975) also found a correlation between written syntactic attainment and reading level in a study involving students at the grade seven level. Heller (1980) found that at least ten elements of written language contributing to syntactic maturity were significantly related to the reading comprehension scores of a group of college freshmen. Stewart (1980) found some positive relationships between syntactic complexity in the writing of grade four students and their reading comprehension level.

Several studies have yielded less positive results. Siedow (1973) examined the relationship between the syntactic maturity of their written language and the ability of students in grades four, eight, and twelve respectively to comprehend reading materials of varying syntactic complexity. Results of the study indicated that this relationship was inconsistent and not systematically affected by developmental change. Johnson (1980) correlated the scores of students in grades three to six on a standardized reading test battery with the results of an analysis of their free writing samples with respect to the number of words per T-unit and two other syntactic measures. While all three measures correlated significantly with one or more of the reading measures, more non-significant than significant correlations were found. None were significant for grades four and six. Wade (1982) found that the mean number of T-units in the writing samples of nine to twelve year old

students correlated with their reading scores for only the nine year olds in the group.

Two studies have found a similarity between the language of the reading texts used by students at the grade two and three levels and that of their writing samples. The students were found to be using the linguistic structures of their texts and also copied their format (Zeman 1969; Eckhoff 1983). The better students were found to use more complex structures in their writing reflecting the linguistically more complex language of their reading texts.

Other studies have attempted to effect an improvement in writing skills either by direct reading instruction or by providing increased or specialized reading experiences. Glazer (1974) explored the effect of exposure to and study of good literature on grades four and six students' ability to write stories. One group listened to selected books read aloud with teacher-led discussion of the author's style, character development, plot structure, and general emotional quality of the selection. The second group heard the same selections but with no discussion following. A third group received no literature program. Two writing samples were evaluated both before and after the twenty-week treatment period. The first group made significantly greater gains in their writing scores in grade four but not in grade six where no significant differences were found among the groups.

Wolfe (1975) attempted to increase the writing vocabulary of community college freshmen in a remedial reading course by teaching the vocabulary found in the subjects' reading assignments. Their scores immediately following the treatment and after a six-week delay as

compared to the scores of a control group led Wolfe to conclude that the teaching of a specific reading vocabulary can have a positive effect on writing vocabulary.

Andreach (1975) found that an experimental group of grade ten students wrote significantly better organized compositions after receiving instruction in the imitation of expository writing models than did a control group who had received instruction according to conventional methods of teaching composition. Taylor and Beach (1984) also found that direct instruction in reading focussing on expository text structure indirectly improved the quality of the expository compositions of students at the grade seven level.

As reported in Belanger (1987), Crowhurst (in press) found that two groups of grade six students who had received instruction in the schema of persuasive writing along with either reading or writing practice improved their writing significantly as compared to a control group.

Summary

Because they are related aspects of the same language system, the reading and writing processes are potentially mutually supportive. A general correlation between reading ability and writing competence has been established by a number of studies across a wide range of measures and subjects. The level of proficiency in reading in the case of a majority of students has been found to be mirrored by a comparable degree of skill with respect to the overall quality, syntactic complexity, and maturity of vocabulary of their written expression and the ab-

sence of mechanical errors. Direct instruction in reading skills and/or increased or specialized reading exposure have also been linked to improved writing ability.

However, for a minority group of students, this parallel growth in reading and writing ability is not apparent. Such students may have satisfactory reading skills yet demonstrate poor writing ability. The present study compared the written expression of these students with that of students having both poor reading skills and poor writing skills. Significant differences in the writing of these two groups, if found, may provide further information regarding the specific factors of the writing process which may be correlated with reading ability. Chapter 3 describes the procedures used in this investigation.

CHAPTER 3

Procedures

The present study examined the written expression of a group of poor writers who were good readers and that of a second group of poor writers who were also poor readers in order to determine whether significant differences existed in their writing with respect to overall quality, syntactic maturity, vocabulary, and the presence of mechanical errors.

The Population

The potential sample for this study consisted of approximately ninety students of average ability from three grade six classrooms in an inner-city elementary school. The students selected in the preliminary screening by the examiner were required to have English as their first language or alternately have been in the school system for a minimum of five years. Further screening was necessarily limited to those students thus identified from whom parental permission to participate in the study had been received in accordance with the policy of the school division in question. (A sample letter requesting such permission is included in Appendix A.) Two groups of students were thus identified as follows:

Group A, designated as good readers, was composed of thirteen students who met the above criteria and had scored at the fifth or sixth stanine in the reading comprehension subtest of

the Canadian Tests of Basic Skills. Group B, designated as poor readers, was composed of fourteen students who met the above criteria and had scored at the third or fourth stanine on the same subtest.

This range of stanines corresponds to that adopted by Chall and Jacobs (1983) in their study to disqualify either highly precocious students or those with possible learning disabilities.

The Canadian Tests of Basic Skills (1982) had been selected from among several test batteries by the school division in question as being most applicable to its needs. Selected subtests were scheduled to be administered in May of the school year to all grade six students in the school concerned. Therefore, the reading comprehension subtest of this test battery was selected by the writer as the screening instrument to determine reading ability.

Since the edition of the test administered is a relatively recent one, information was limited to that available in the accompanying manual. The developers of the test battery state that the content of the tests was selected "to represent the best of curriculum practices and to reflect current emphasis upon social utility and relevance for a diverse population" (p. 7). The test is said to emphasize the functional value of the skills included. The standardization participants were drawn as a stratified random sample of Canadian schools in which English was the main language of instruction. Students learning English as a Second Language were excluded. It is stated that the validity of the test construction is to be determined in relation to local curriculum goals and instructional emphasis, as well as the nature of the local school

population. The reliability coefficient for the reading comprehension subtest based on the Kuder-Richardson Formula 20 (K-R20) procedures is stated as .89.

Collecting the Data

The students in each of the three grade six classes were required to complete two writing assignments in the narrative and argumentative modes respectively. These compositions were written as a total class assignment administered by the examiner during the same three week period in May during which the reading comprehension subtest was administered to all the grade six students. Each of the two writing sessions was of thirty minutes duration excluding the brief time required for standardized instructions given at the start of each session. The narrative composition was written in response to a picture stimulus while the argumentative composition was written in response to a posed question to which the students were asked to react. (Sample student assignment sheets are included in Appendix B.) Only the compositions of those students involved in the study were considered in computing the data.

Treatment of the Data

The compositions of the students selected to participate in the study were first typed with only spelling errors corrected. Each student was randomly identified solely through a number code. The compositions were scored holistically by three teachers experienced at the appropriate grade level. The markers were instructed to grade each com-

position using a score of one to five with five being the best possible score. Since the objective was to identify those students who would be designated as poor writers according to the standards of three independent markers, no attempt was made to establish a common set of criteria for this evaluation. However, each marker was asked to submit to the examiner a listing of the number codes of those papers in each mode rated as being in the top quarter in order of merit. The reliability of the scoring for each mode was computed according to the procedure outlined by Diederich (1974) and was found to be satisfactory within the required limits.

Each composition was assigned a grade based upon the mean of the scores given by two of the markers. The third marker was designated as an arbitrator in case of a discrepancy between the first two scores of more than one full grade-point. It is important to note that students who received a combined score on the two writing assignments of higher than 3.3 were disqualified from participation in the study as not being representative of poor writers. Four students from Group A were disqualified for this reason. Thus the actual group of participants included nine students in Group A identified as poor writers/good readers and fourteen students in Group B identified as poor writers/poor readers. The mean score for each mode was computed for each group of students.

The same compositions were then retyped with mechanical errors as well as spelling errors corrected. The presence of mechanical errors in students' writing has been identified as the second greatest factor influencing teacher judgment in its evaluation (Diederich 1974). Such errors are common in the written expression of poor writers particularly

those who also have poor reading skills (Maloney 1967; Chall and Jacobs 1983), and may negatively affect the rating given. Therefore, mechanical errors present in the students' writing were eliminated in an attempt to determine whether their absence would have an effect upon the assigned scores.

These revised writing samples were evaluated by a second group of three qualified teachers following the procedures outlined above. The reliability of this rating was also found to be satisfactory. The mean score for each mode was computed for each group of students.

The original compositions were then analyzed by the examiner with respect to syntactic maturity using Hunt's criteria for determining T-unit length. The segmentation rules used by Crowhurst (1980) in her study were adopted. (These segmentation rules are included in Appendix C.) The mean T-unit length was calculated for each group for the narrative and argumentative modes respectively.

The examiner also analyzed each composition for maturity of vocabulary by determining in each piece of writing the number of words having a frequency rating at the grade six level of less than fifty as determined by the American Heritage Word Frequency Book (Carroll et al 1971). While not a standard measure, word lists have been used in other research studies in determining the level of vocabulary used in students' written compositions. For example, Chall and Jacobs (1983) used the Spache vocabulary list of 1,000 common words and a list of 3,000 words familiar to fourth graders (Dale and Chall, forthcoming) as measures of vocabulary in their study.

The American Heritage Word Frequency Book contains a computer-

assembled selection of 5,088,721 words drawn in 500 word samples from 1,045 published materials. These materials were selected through a national survey of American schools as representative of the range of required and recommended reading to which students are exposed in grades three to nine. The volume contains 86,741 different words designated as to frequency at the various grade levels. For each of the two writing assignments, the word frequency percentage for the individual student and the mean for each group as a whole were calculated.

The t-Test of Significance formula for a difference between two independent means was used to determine whether a statistically significant difference existed between the written expression of the group of poor writers/good readers and that of the group of poor writers/poor readers with respect to:

- . the scores of the unrevised narrative compositions
- . the scores of the unrevised argumentative compositions
- . the scores of the revised narrative compositions
- . the scores of the revised argumentative compositions
- . the percentage word frequency count (-50) in the narrative compositions
- . the percentage word frequency count (-50) in the argumentative compositions
- . the mean T-unit length in the narrative compositions
- . the mean T-unit length in the argumentative compositions

The t-Test of Significance formula for related measures used to determine whether there was a statistically significant difference between:

- . the unrevised narrative scores and the revised narrative scores of the poor writers/good readers
- . the unrevised argumentative scores and the revised argumentative scores of the poor writers/good readers
- . the unrevised narrative scores and the revised narrative scores of the poor writers/poor readers
- . the unrevised argumentative scores and the revised argumentative scores of the poor writers/poor readers

The results of these analyses are presented and discussed in Chapter 4.

CHAPTER 4

An Analysis and Interpretation of the Data

Initial Test Results

This study attempted to determine whether significant differences were present in the written expression of a group of poor writers with satisfactory reading skills as opposed to that of a second group of poor writers with below average reading skills. The areas investigated included an examination of the overall quality of the compositions, syntactic maturity, level of vocabulary, and the mechanics of written expression.

Students of average ability from three grade six classrooms were selected for participation in the study based on their scores on the comprehension subtest of the Canadian Tests of Basic Skills. Those students scoring at the fifth and sixth stanines on the subtest were categorized as good readers while those scoring at the third and fourth stanines on the same subtest were categorized as poor readers. Excluded from the study were students of English as a Second Language and those students from whom parental permission to participate in the study was not received as required by school division policy. Thirteen students were thus identified as good readers (Group A) while fourteen students were identified as poor readers (Group B).

Writing ability was assessed by means of two writing samples in the narrative and argumentative modes respectively. These compositions were written as regular class assignments during the same time period as the reading comprehension subtest was administered to the three grade six classes concerned. Typed copies of these compositions with spelling

errors corrected were graded independently for overall quality by three qualified teachers. The compositions were scored on a scale of one to five with five being the highest possible score. The reliability of this scoring was computed according to the procedure recommended by Diederich (1974) and was found to be satisfactory within the limits he established in his study.

Each composition was assigned a grade based on the mean of the ratings of two of the markers. The third marker served as an arbitrator in instances where there was more than one full grade-point difference between the two markers' scores. Table 1 and Table 2 present the markers' ratings and assigned grades for the unrevised compositions of the good readers in the narrative and argumentative modes respectively.

TABLE 1

RATINGS AND ASSIGNED GRADE: UNREVISED NARRATIVE COMPOSITION OF GOOD READERS

STUDENT	MARKER X	MARKER Y	MARKER Z*	GRADE
05	3	2	2	2.5
08	5	5	4	5
09	5	4	4	4.5
011	5	1	3	2
013	4	3	2	3.5
014	4	4	4	4
015	3	3	2	3
016	5	3	4	3.5
017	3	2	2	2.5
019	2	4	3	3.5
020	3	4	3	3.5
021	5	2	5	3.5
024	5	3	5	4

N= 13

* Arbitrator

TABLE 2

RATINGS AND ASSIGNED GRADE: UNREVISED ARGUMENTATIVE COMPOSITION OF GOOD READERS

STUDENT	MARKER X	MARKER Y	MARKER Z*	GRADE
05	1	1	1	1
08	4	4	3	4
09	5	5	5	5
011	3	1	2	2
013	5	3	3	3
014	4	3	2	3.5
015	1	2	2	1.5
016	5	3	4	3.5
017	3	1	2	1.5
019	3	1	1	1
020	1	2	1	1.5
021	4	2	4	3
024	5	3	2	2.5

N= 13

* Arbitrator

Table 3 and Table 4 indicate the markers' ratings and assigned grade for the unrevised compositions of the poor readers in each of the two modes.

TABLE 3

RATINGS AND ASSIGNED GRADE: UNREVISED NARRATIVE COMPOSITION OF POOR READERS

STUDENT	MARKER X	MARKER Y	MARKER Z*	GRADE
01	3	1	2	1.5
02	1	1	1	1
03	2	2	2	2
04	3	2	2	2.5
06	4	3	3	3.5
07	1	1	2	1
010	3	2	2	2.5
012	2	2	2	2
018	3	4	2	3.5
022	2	2	2	2
023	2	2	2	2
025	1	1	1	1
026	3	2	3	2.5
027	1	1	1	1

N= 14

* Arbitrator

TABLE 4

RATINGS AND ASSIGNED GRADE: UNREVISED ARGUMENTATIVE COMPOSITION OF POOR READERS

STUDENT	MARKER X	MARKER Y	MARKER Z*	GRADE
01	2	2	1	2
02	1	1	1	1
03	1	3	1	2
04	1	2	1	1.5
06	2	3	2	2.5
07	2	3	2	2.5
010	1	2	1	1.5
012	2	2	2	2
018	3	1	1	1
022	2	1	1	1.5
023	1	1	1	1
025	1	1	1	1
026	2	3	3	2.5
027	1	1	1	1

N= 14

* Arbitrator

A composite score was computed for each student in the two groups. Table 5 presents the combined scores for the unrevised compositions of the good readers.

TABLE 5

COMBINED SCORES OF UNREVISED COMPOSITIONS: GOOD READERS

STUDENT	NARRATIVE	ARGUMENT	COMBINED GRADE
05	2.5	1	1.8
*08	5	4	4.5
*09	4.5	5	4.8
011	2	2	2.0
013	3.5	3	3.3
*014	4	3.5	3.8
015	3	1.5	2.3
*016	3.5	3.5	3.5
017	2.5	1.5	2.0
019	3.5	1	2.3
020	3.5	1.5	3.3
021	3.5	3	3.3
024	4	2.5	3.3

N= 14

* Disqualified

Four students in this group received a composite score higher than 3.3 and were thus excluded from the study as not being representative of poor writers. Thus the actual group of poor writers/good readers was reduced from thirteen students to nine students. The second group, composed of poor writers/poor readers, remained constant with fourteen students. Table 6 indicates the composite scores of this group of students.

TABLE 6

COMBINED SCORES OF UNREVISED COMPOSITIONS: POOR READERS

STUDENT	NARRATIVE	ARGUMENT	COMBINED GRADE
01	1.5	2	1.8
02	1	1	1
03	2	2	2
04	2.5	1.5	2
06	3.5	2.5	3
07	1	2.5	1.8
010	2.5	1.5	2
012	2	2	2
018	3.5	1	2.3
022	2	1.5	1.8
023	2	1	1.5
025	1	1	1
026	2.5	2.5	2.5
027	1	1	1

N= 14

The compositions were then revised to correct mechanical errors, namely the omission of required capitalization and end punctuation as sentence markers. These revised versions were scored by a second group of three qualified markers following the procedure described above. The reliability of the scoring in this instance also proved to be within the

required limits. The ratings and assigned grade for the revised narrative compositions of the good readers are shown in Table 7.

TABLE 7

RATINGS AND ASSIGNED GRADE: UNREVISED NARRATIVE COMPOSITION OF GOOD READERS

STUDENT	MARKER A	MARKER B	MARKER C*	GRADE
05	3	3	3	3
011	5	3	3.5	3.3
013	2	1	3	1.5
015	3	3	4	3
017	1	1	3	1
019	5	4	3.5	4.5
020	4	3	3.5	3.5
021	5	2	4.5	4.8
024	2	5	4	4.5
N= 9				
* Arbitrator				

Table 8 presents the ratings and assigned grade for the revised argumentative compositions for the same group.

TABLE 8

RATINGS AND ASSIGNED GRADE: REVISED ARGUMENTATIVE COMPOSITION OF GOOD READERS

STUDENT	MARKER A	MARKER B	MARKER C*	GRADE
05	1	1	2	1
011	3	2	3.5	2.5
013	4	3	3	3.5
015	3	2	2.5	2.5
017	2	1	3	1.5
019	3	5	3	3
020	2	2	2.5	2
021	4	4	2	4
024	3	3	3.5	3

N= 9

* Arbitrator

Table 9 and Table 10 list the ratings and assigned grade for the revised compositions of the poor readers in the narrative and argumentative modes respectively.

TABLE 9

RATINGS AND ASSIGNED GRADE: REVISED NARRATIVE COMPOSITION OF POOR READERS

STUDENT	MARKER A	MARKER B	MARKER C*	GRADE
01	2	1	2.5	1.5
02	2	2	4	2
03	3	3	4	3
04	3	2	2.5	2.5
06	3	4	3	3.5
07	4	2	3	3.5
010	1	2	2.5	1.5
012	2	1	3	1.5
018	3	2	3	2.5
022	3	2	3.5	2.5
023	3	2	4	2.5
025	1	1	2	1
026	4	2	3	3.5
027	4	3	3	3.5

N= 14

* Arbitrator

TABLE 10

RATINGS AND ASSIGNED GRADE: REVISED ARGUMENTATIVE COMPOSITION OF POOR READERS

STUDENT	MARKER A	MARKER B	MARKER C*	GRADE
01	3	2	3.5	2.5
02	2	1	2.5	1.5
03	4	3	3	3.5
04	1	1	2	1
06	3	2	2.5	2.5
07	4	3	3	3.5
010	1	2	2	1.5
012	3	2	2.5	2.5
018	2	1	2.5	1.5
022	2	3	1.5	2.5
023	1	3	2.5	2.75
025	2	3	2	2.5
026	2	2	3	2
027	1	2	2.5	1.5

N= 14

* Arbitrator

The unrevised compositions of both groups of students were analyzed by the examiner for syntactic maturity as measured by mean T-unit length and for level of vocabulary as measured by word frequency rating.

Differences between pairs of independent means were calculated using the t-Test of Significance according to the following formula:

$$t = \frac{M_1 - M_2}{\sqrt{\left[\left(\frac{\sum d_1^2 + \sum d_2^2}{N_1 + N_2 - 2} \right) \left(\frac{1}{N_1} + \frac{1}{N_2} \right) \right]}}$$

where M_1 = the mean of scores for the first group

M_2 = the mean of scores for the second group

d_1^2 = the sum of squared deviations from the mean for the first group

d_2^2 = the sum of squared deviations from the mean for the second group

N_1 = the number of scores in the first group

N_2 = the number of scores in the second group

Differences between two related means were computed using the t-Test of Significance according to the following formula:

$$t = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{\sum D^2 - \left(\frac{\sum D}{N}\right)^2}{N(N-1)}}$$

where D = the difference score between \bar{X} and \bar{Y} pair

N = the number of pairs of scores

The data were then examined according to the following hypotheses investigated by the study:

HYPOTHESIS 1

There is no difference between the writing of poor writers who are good readers and poor writers who are poor readers in overall quality.

Table 11 presents the data for the t-Test of Significance showing the difference between the holistic scores of the unrevised narrative compositions of the two groups of students. An examination of the data reveals that the mean score for the group of good readers was 3.1 while the mean score for the group of poor readers was only 2.0. The difference between the two means proved significant at the .01 level. The results indicate that the narrative compositions of the good readers were judged to be significantly better than those of the poor readers in overall quality. Therefore, Hypothesis 1 must be rejected with respect to the narrative writing of the two groups.

Table 12 presents the data for the t-Test of Significance showing the difference between the holistic scores of the unrevised argumentative compositions of the two groups. The mean score for the group of good readers was 1.9 while the mean score for the group of poor readers was 1.6. The difference between the two means did not prove significant at the .05 level. The results indicate that there was no significant difference in overall quality between the argumentative compositions of the good readers and those of the below average readers. Therefore, Hypothesis 1 must be accepted with respect to the argumentative writing of the two groups of students.

TABLE 11

t-TEST OF SIGNIFICANCE: DIFFERENCE IN THE HOLISTIC SCORE OF THE UNREVISED NARRATIVE COMPOSITION OF GOOD AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	HOLISTIC SCORE	d	d ²	STUDENT	HOLISTIC SCORE	d	d ²
05	2.5	.6	.36	01	1.5	.5	.25
011	2	1.1	1.2	02	1	1.0	1
013	3.5	.4	.16	03	2	0	0
015	3	.1	.01	04	2.5	.5	.25
017	2.5	.6	.36	06	3.5	1.5	2.25
019	3.5	0	0	07	1	1	1
020	3.5	0	0	010	2.5	.5	.25
021	3.5	0	0	012	2	0	0
024	4	.5	.25	018	3.5	1.5	2.25
				022	2	0	0
				023	2	0	0
				025	1	1	1
				026	2.5	.5	.25
				027	1	1	1
N= 9	Mean= 3.1		≤ 2.35	N= 14	Mean= 2.0		≤ 9.5
df= 21		t= 3.44			SIGNIFICANT AT THE .01 LEVEL		

TABLE 12

t-TEST OF SIGNIFICANCE: DIFFERENCE IN THE HOLISTIC SCORE OF THE UNREVISED ARGUMENTATIVE COMPOSITION OF GOOD AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	HOLISTIC SCORE	d	d ²	STUDENT	HOLISTIC SCORE	d	d ²
05	1	.9	.81	01	2	.4	.16
011	2	.1	.01	02	1	.6	.36
013	3	1.1	1.21	03	2	.4	.16
015	1.5	.4	.16	04	1.5	.1	.01
017	1.5	.4	.16	06	2.5	.9	.81
019	1	.9	.81	07	2.5	.0	.01
020	1.5	.4	.16	010	1.5	.1	.01
021	3	1.1	1.21	012	2	.4	.16
024	2.5	.6	.36	018	1	.6	.36
				022	1.5	.1	.01
				023	1	.6	.36
				025	1	.6	.36
				026	2.5	.9	.81
				027	1	.6	.36
N= 9	Mean= 1.9		Σ 4.89	N= 14	Mean= 1.6		Σ 4.74
df= 21		t= 1.045			NOT SIGNIFICANT AT THE .05 LEVEL		

The above data reveal an apparent positive correlation between reading ability and the overall quality of the students' narrative compositions but not in the case of their compositions in the argumentative mode. This discrepancy in the results may be accounted for by the fact that at the elementary level, the reading experiences of students are most likely to be predominantly in the narrative mode with respect to stories read to them, their own recreational reading, or those selections encountered in their reading texts. Therefore, this repeated exposure will have fostered the gradual internalization of story grammar or schema which the students are then able to apply in their own writing efforts. Since good readers are apt to read more extensively, they will have had wider opportunities to benefit from such exposure.

However, at the elementary level, both good readers and below average readers will have had relatively limited exposure to the argumentative form of written expression. Since the internalization of literary forms takes place gradually over a period of time, both groups are likely to experience difficulty with the organization and development of ideas in this unfamiliar style of writing. This conclusion is supported by the fact that several studies have reported significant gains in the quality of the expository writing of students who had received direct instruction in the organization of expository text structure (Andreach 1975; Taylor and Beach 1984; Crowhurst in press).

HYPOTHESIS 2

The writing of the two groups will not differ once mechanical errors of capitalization and end punctuation as sentence markers have been eliminated.

An examination of the data in Table 13 indicates that the mean score of the revised narrative compositions of the good readers was 3.2. The mean score obtained by the poor readers was 2.5. The difference between the two means was not significant at the .05 level. The results indicate that there was no significant difference between the holistic scores of the narrative compositions of the two groups once mechanical errors had been corrected. Therefore, Hypothesis 1 must be accepted with respect to the narrative mode.

Table 14 shows the data for the t-Test of Significance of the difference in the scores of the revised argumentative compositions of the good and poor readers. The mean score for the good readers was 2.6 while the mean score for the poor readers was 2.2. The difference between these two means was not significant at the .05 level. The results indicate that there was no significant difference between the revised argumentative composition scores of the good and poor readers when graded holistically once mechanical errors had been corrected. Therefore, Hypothesis 2 must be accepted with respect to the argumentative mode as well.

TABLE 13

t-TEST OF SIGNIFICANCE: DIFFERENCE IN THE SCORES OF THE REVISED NARRATIVE COMPOSITIONS OF GOOD AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	SCORE	d	d ²	STUDENT	SCORE	d	d ²
05	3	.2	.04	01	1.5	1	1
011	3.3	.1	.01	02	2	.5	.25
013	1.5	1.7	2.9	03	3	.5	.25
015	3	.2	.04	04	2.5	0	0
017	1	2.2	4.8	06	3.5	1	1
019	4.5	1.3	1.7	07	3.5	1	1
020	3.5	.3	.09	010	1.5	1	1
021	4.8	1.6	2.6	012	1.5	1	1
024	4.5	1.3	1.7	018	2.5	0	0
				022	2.5	0	0
				023	2.5	0	0
				025	1	1.5	2.3
				026	3.5	1	1
				027	3.5	1	1
N= 9	Mean= 3.2		Σ13.88	N= 14	Mean= 2.5		Σ9.8
df= 21		t= 1.56			NOT SIGNIFICANT AT THE .05 LEVEL		

TABLE 14

t-TEST OF SIGNIFICANCE: DIFFERENCE IN THE SCORES OF THE REVISED ARGUMENTATIVE COMPOSITIONS OF GOOD AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	SCORE	d	d ²	STUDENT	SCORE	d	d ²
05	1	1.6	2.6	01	2.5	.3	.09
011	2.5	.1	.01	02	1.5	.7	.49
013	3.5	.9	.81	03	3.5	1.3	1.7
015	2.5	.1	.01	04	1	1.2	1.4
017	1.5	1.1	1.2	06	2.5	.3	.09
019	3	.4	.16	07	3.5	1	1
020	2	.6	.36	010	1.5	1	1
021	4	1.4	2.0	012	2.5	.3	.09
024	3	.4	.16	018	1.5	.7	.49
				022	2.5	.3	.09
				023	2.8	.6	.36
				025	2.5	.3	.09
				026	2	.2	.04
				027	1.5	.7	.49
N= 9	Mean= 2.6		Σ7.31	N= 14	Mean= 2.2		Σ7.42
df= 21		t= 1.143			NOT SIGNIFICANT AT THE .05 LEVEL		

A comparison was also made between the unrevised and revised composition scores for each of the two groups. The sole revision which had been made in each case was the elimination of mechanical errors in the students' work. The good readers showed no significant difference between the scores in their narrative compositions as indicated in Table 15. The mean score for the unrevised compositions was 3.1 while the mean score for the revised compositions was 3.2. However, the difference between the unrevised and revised versions of the argumentative compositions of the good readers was statistically significant at the .01 level. The mean score of the unrevised compositions was 1.9 while the mean score of the revised compositions was 2.6. This data is presented in Table 16.

TABLE 15

t-TEST OF SIGNIFICANCE FOR RELATED MEASURES: DIFFERENCE BETWEEN THE UNREVISED SCORES AND THE REVISED SCORES IN THE NARRATIVE COMPOSITIONS OF GOOD READERS

STUDENT	UNREVISED SCORE	REVISED SCORE	d	d ²
05	2.5	3	-.5	.25
011	2	3.3	-1.3	1.69
013	3.5	1.5	+2.0	4.0
015	3	3	0	0
017	2.5	1	+1.5	3.0
019	3.5	4.5	-1.0	1.0
020	3.5	3.5	0	0
021	3.5	4.8	-1.3	1.69
024	4	4.5	-.5	.25
N= 9	Mean= 3.1	Mean= 3.2	Σ -1.1	Σ 11.88
df= 8	t= .248	NOT SIGNIFICANT AT THE .05 LEVEL		

TABLE 16

t-TEST OF SIGNIFICANCE FOR RELATED MEASURES: DIFFERENCE BETWEEN THE UNREVISED SCORES AND THE REVISED SCORES IN THE ARGUMENTATIVE COMPOSITIONS OF GOOD READERS

STUDENT	UNREVISED SCORE	REVISED SCORE	d	d ²
05	1	1	0	0
011	2	2.5	-.5	.25
013	3	3.5	-.5	.25
015	1.5	2.5	-1.0	1.0
017	1.5	1.5	0	0
019	1	3	-2.0	4.0
020	1.5	2	-.5	.25
021	3	4	-.5	.25
024	2.5	3	-.5	.25
N= 9	Mean= 1.9	Mean= 2.6	$\bar{d} = -.6$	$\sum d^2 = 7.0$
df= 8	t= 3.43	SIGNIFICANT AT THE .01 LEVEL		

Similar results were found in a comparison of the scores of the unrevised and revised compositions of the poor readers. Table 17 shows that no significant differences was found between the two scores in the narrative mode. The mean score for the unrevised compositions was 2.0 while the mean score for the revised compositions was 2.5. Table 18 presents the data regarding the t-Test of Significance of the difference between the unrevised scores and the revised scores of the argumentative compositions of the poor readers. This difference was significant at the .01 level. The mean score of the unrevised compositions was 1.6 while the mean score of the revised compositions was 2.2.

TABLE 17

t-TEST OF SIGNIFICANCE FOR RELATED MEASURES: DIFFERENCE BETWEEN THE UNREVISED SCORES AND THE REVISED SCORES IN THE NARRATIVE COMPOSITIONS OF POOR READERS

STUDENT	UNREVISED SCORE	REVISED SCORE	d	d ²
01	1.5	1.5	0	0
02	1.0	2.0	-1	1
03	2.0	3.0	-1	1
04	2.5	2.5	0	0
06	3.5	3.5	0	0
07	1.0	3.5	-2.5	6.25
010	2.5	1.5	+1	1
012	2.0	1.5	+.5	.25
018	3.5	2.5	+1	1
022	2.0	2.5	-.5	.25
023	2.0	2.5	-.5	.25
025	1.0	1.0	0	0
026	2.5	3.5	-1	1
027	1.0	3.5	-2.5	6.25
N= 14	Mean= 2.0	Mean= 2.5	$\sum -6.5$	$\sum 18.25$
df= 13	t= 1.73	NOT SIGNIFICANT AT THE .05 LEVEL		

TABLE 18

t-TEST OF SIGNIFICANCE FOR RELATED MEASURES: DIFFERENCE BETWEEN THE UNREVISED SCORES AND THE REVISED SCORES IN THE ARGUMENTATIVE COMPOSITIONS OF POOR READERS

STUDENT	UNREVISED SCORE	REVISED SCORE	d	d ²
01	2	2.5	- .5	.25
02	1	1.5	- .5	.25
03	2	3.5	- 1.5	2.25
04	1.5	1	+ .5	.25
06	2.5	2.5	0	0
07	2.5	3.5	- 1	1
010	1.5	1.5	0	0
012	2	2.5	- .5	.25
018	1	1.5	- .5	.25
022	1.5	2.5	- 1	1
023	1	2.8	- 1.8	3.24
025	1	2.5	- 1.5	2.25
026	2.5	2	+ .5	.25
027	1	1.5	- .5	.25
N= 14	Mean= 1.6	Mean= 2.2	Σ -8.3	Σ 11.49
df= 13	t= 3.158	SIGNIFICANT AT THE .01 LEVEL		

Several observations can be made from a consideration of the above data. It would appear that in the narrative mode, a familiar one to both groups, the poorer readers made more mechanical errors than did the good readers since a significant difference was found in the unrevised scores of the two groups but not in their revised scores. The results also seem to suggest that such elements as thought content, organization, and style in the writing of the two groups in the narrative mode was similar. These two findings compare positively with those of Chall and Jacobs (1983) in their study which found that by grade seven the content rating of the above and below average readers was similar in narrative writing. (The students in the present study were nearing the end of their sixth grade year.) These researchers as well as Maloney (1967), also found that the poorer readers experienced greater difficulty with the form or structure (including mechanical errors) of their writing than did the good readers.

Both the good readers and the poor readers had difficulty with mechanical errors in the argumentative mode. This statement is supported by the fact that the scores for both groups were significantly higher once the compositions were revised. A possible explanation for this occurrence might be that both groups found the development and organization of their content more difficult in this relatively unfamiliar mode as evidenced by the lack of a significant difference in their unrevised scores. Thus they were able to pay less attention to the mechanics of writing.

Based on the above results, evidence as to a possible correlation between reading ability and the presence of mechanical errors in the

students' writing remains inconclusive. However, the results would seem to support the statement that the presence of mechanical errors in students' writing does indeed negatively affect teacher evaluation as found by Diederich (1974).

HYPOTHESIS 3

The writing of the two groups will not differ in syntactic maturity as measured by mean length of T-unit.

The data in Table 19 and Table 20 indicate the T-unit length of the narrative compositions of the good readers and the poor readers respectively.

TABLE 19

MEAN T-UNIT LENGTH OF THE NARRATIVE COMPOSITION OF GOOD READERS

<u>STUDENT</u>	<u>NO. OF T-UNITS</u>	<u>NO. OF WORDS</u>	<u>MEAN T-UNIT LENGTH</u>
05	19	185	9.7
011	26	229	8.8
013	26	229	8.8
015	26	253	9.7
017	24	192	8.0
019	27	237	8.8
020	10	130	13.0
021	44	463	10.5
024	39	353	9.1
<hr/>			
N= 9		Mean= 252.3	Mean= 9.6

TABLE 20

MEAN T-UNIT LENGTH OF THE NARRATIVE COMPOSITION OF POOR READERS

STUDENT	NO. OF T-UNITS	NO. OF WORDS	MEAN T-UNIT LENGTH
01	36	316	8.8
02	25	254	10.2
03	26	220	8.5
04	13	127	9.8
06	25	232	9.3
07	24	206	8.5
010	11	94	8.5
012	25	301	12.0
018	20	191	9.6
022	21	201	9.6
023	28	213	7.6
025	16	149	9.3
026	25	220	8.8
027	24	203	8.5
<hr/>			
N= 14		Mean= 209.0	Mean= 9.2

The mean T-unit length in the narrative compositions for the group of good readers was 9.6 while the mean T-unit length for the poor readers was 9.2. This difference in mean T-unit length was not significant at the .05 level as indicated in Table 21. The results reveal that the narrative compositions of the good readers were not significantly different in syntactic maturity as measured by mean length of T-unit. Therefore, Hypothesis 3 must be accepted with respect to the narrative mode.

TABLE 21

t-TEST OF SIGNIFICANCE: DIFFERENCE IN MEAN T-UNIT LENGTH IN THE NARRATIVE COMPOSITION OF GOOD AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	MEAN T-UNIT LENGTH	d	d ²	STUDENT	MEAN T-UNIT LENGTH	d	d ²
05	9.7	.1	.01	01	8.8	.4	.16
011	8.8	.8	.64	02	10.2	1.0	1.0
013	8.8	.8	.64	03	8.5	.7	.49
015	9.7	.1	.01	04	9.8	.6	.36
017	8.0	1.6	2.56	06	9.3	.1	.01
019	8.8	.8	.64	07	8.6	.6	.36
020	13.0	3.4	11.56	010	8.5	.7	.49
021	10.5	.9	.81	012	12.0	2.8	7.84
024	9.1	.5	.25	018	9.6	.4	.16
				022	9.6	.4	.16
				023	7.6	1.6	2.56
				025	9.3	.1	.01
				026	8.8	.4	.16
				027	8.5	.7	.49
N= 9	Mean= 9.6		Σ 17.12	N= 14	Mean= 9.2		Σ 14.25
df= 21		t= .770			NOT SIGNIFICANT AT THE .05 LEVEL		

Tables 22 and 23 indicate the data regarding mean T-unit length of the argumentative compositions of the good readers and the poor readers respectively.

TABLE 22

MEAN T-UNIT LENGTH OF THE ARGUMENTATIVE COMPOSITION OF GOOD READERS

STUDENT	NO. OF T-UNITS	NO. OF WORDS	MEAN T-UNIT LENGTH
05	9	81	9.0
011	13	202	15.5
013	12	197	16.4
015	8	118	14.8
017	17	182	10.7
019	22	191	8.7
020	10	108	10.8
021	19	212	11.2
024	14	218	15.6
<hr/>			
N= 9		Mean= 167.7	Mean= 12.5

TABLE 23

MEAN T-UNIT LENGTH OF THE ARGUMENTATIVE COMPOSITION OF POOR READERS

STUDENT	NO. OF T-UNITS	NO. OF WORDS	MEAN T-UNIT LENGTH
01	18	263	14.6
02	8	131	16.4
03	7	95	13.6
04	4	104	26
06	15	173	11.5
07	11	155	14.1
010	3	78	26
012	8	182	22.8
018	12	164	13.7
022	18	164	13.7
023	14	145	10.4
025	5	84	16.8
026	8	133	16.6
027	17	165	9.7
<hr/>			
N= 14		Mean= 148.1	Mean= 16.0

Both groups wrote significantly longer T-units in the argumentative mode than in the narrative mode as indicated in Table 24 and Table 25 respectively. The difference in T-unit length between the narrative and argumentative modes for the good readers was significant at the .05 level while the difference between the modes for the poor readers was significant at the .01 level. These results correspond to those of San Jose (1972) and Crowhurst and Piche (1979) who also found that students wrote longer T-units in the argumentative mode than in the narrative mode.

However, an examination of the data in Table 26 reveals that while the below average readers as a group wrote longer T-units in the argumentative mode than did the good readers, the difference between the mean T-unit length in the compositions of the two groups was not significant at the .05 level. Therefore, Hypothesis 3 must be accepted with respect to the argumentative mode as well.

Thus based on the above data, no significant correlation was established between the reading ability and the syntactic maturity in the writing of the two groups. In the case of the argumentative mode, an explanation for this result may lie in the choice of topic assigned which, viewed in retrospect, was perhaps too closely linked to the students' prior knowledge and experiences. Students may, therefore, have tended to write in somewhat colloquial language resembling the language of speech, thus affecting the length of the T-units. Their unfamiliarity with the more complex structures of the style of writing in the argumentative mode may also have been a contributing factor.

TABLE 24

t-TEST OF SIGNIFICANCE FOR RELATED MEASURES: DIFFERENCE IN MEAN T-UNIT LENGTH IN THE UNREVISED COMPOSITIONS OF GOOD READERS

STUDENT	MEAN T-UNIT LENGTH NARRATIVE	MEAN T-UNIT LENGTH ARGUMENTATIVE	d	d ²
05	9.7	9.0	.7	.49
011	8.8	15.5	-6.7	44.89
013	8.8	16.4	-7.6	57.76
017	8.0	10.7	-2.7	7.29
019	8.8	8.7	.1	.01
020	13.0	10.8	2.2	4.84
021	10.5	11.2	-.7	.49
024	9.1	15.6	-6.5	42.25
N= 9	Mean= 9.6	Mean= 12.5	\sum -26.3	\sum 184.03
df= 8	t= 2.377	SIGNIFICANT AT THE .05 LEVEL		

TABLE 25

t-TEST OF SIGNIFICANCE FOR RELATED MEASURES: DIFFERENCE IN MEAN T-UNIT LENGTH IN THE UNREVISED COMPOSITIONS OF POOR READERS

STUDENT	MEAN T-UNIT LENGTH NARRATIVE	MEAN T-UNIT LENGTH ARGUMENTATIVE	d	d ²
01	8.8	14.6	- 5.8	33.64
02	10.2	16.4	- 6.2	38.44
03	8.5	13.6	- 5.1	26.01
04	9.8	26	- 17.5	306.25
06	9.3	11.5	- 2.2	4.84
07	8.5	14.1	- 5.6	31.36
010	8.5	26	- 17.5	306.25
012	12.0	22.8	- 10.8	116.64
018	9.6	13.7	- 4.1	16.81
022	9.6	13.7	- 4.1	16.81
023	7.6	10.4	- 2.8	7.84
025	9.3	16.8	- 7.5	56.25
026	8.8	16.6	- 7.8	60.84
027	8.5	9.7	- 1.2	1.44
N= 14	Mean= 9.2	Mean= 16.0	Σ - 96.9	Σ 979.61
df= 13	t= 5.219	SIGNIFICANT AT THE .01 LEVEL		

TABLE 26

t-TEST OF SIGNIFICANCE: DIFFERENCE IN MEAN T-UNIT LENGTH IN THE ARGUMENTATIVE COMPOSITION OF GOOD AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	MEAN T-UNIT LENGTH	d	d ²	STUDENT	MEAN T-UNIT LENGTH	d	d ²
05	9.0	3.5	12.3	01	14.6	1.4	2.0
011	15.5	3.0	9.0	02	16.4	.4	.16
013	16.4	3.9	15.2	03	13.6	2.4	5.8
015	14.8	2.3	5.3	04	26.0	10.0	100.00
017	10.7	1.8	3.2	06	11.5	4.5	20.3
019	8.7	3.8	14.4	07	14.1	1.9	3.6
020	10.8	1.7	2.9	010	26.0	10.00	100.00
021	11.2	1.3	1.7	012	22.8	6.8	46.2
024	15.6	3.1	9.6	018	13.7	2.3	5.3
				022	13.7	2.3	5.3
				023	10.4	5.6	31.4
				025	16.8	.8	.64
				026	16.6	.6	.36
				027	9.7	6.3	40.0
N= 9	Mean= 12.5		Σ 73.6	N= 14	Mean= 16.0		Σ 361.1
df= 21		t= 1.813			NOT SIGNIFICANT AT THE .05 LEVEL		

HYPOTHESIS 4

The writing of the two groups of students will not differ in maturity of vocabulary as determined by word frequency rating.

The data regarding the percentage of words having a word frequency rating of less than 50 at the grade six level in the narrative composition of good readers are presented in Table 27. A percentage score was calculated as the total number of words written by the students varied both between each group and between students within each of the groups. Table 28 indicates the percentage word frequency rating for the narrative compositions of the poor readers.

TABLE 27

PERCENTAGE WORD FREQUENCY COUNT (-50) IN THE NARRATIVE COMPOSITION OF GOOD READERS

STUDENT	TOTAL NUMBER OF WORDS	NUMBER OF WORDS -50	PERCENTAGE SCORE
05	185	7	2.7
011	229	18	7.9
013	229	14	6.1
015	253	13	5.9
017	192	18	9.4
019	237	21	8.9
020	130	5	3.8
021	463	28	6.0
024	353	25	7.1
N= 9	Mean= 252.3	Mean= 16.6	Mean= 6.4

TABLE 28

PERCENTAGE WORD FREQUENCY COUNT (-50) IN THE NARRATIVE COMPOSITION OF POOR READERS

STUDENT	TOTAL NUMBER OF WORDS	NUMBER OF WORDS -50	PERCENTAGE SCORE
01	316	10	3.2
02	254	14	5.5
03	220	9	4.1
04	127	3	2.4
06	232	11	4.7
07	206	9	4.4
010	94	5	5.3
012	301	11	3.7
018	191	22	11.5
022	201	26	12.9
023	213	13	6.1
025	149	5	3.4
026	220	15	6.8
027	203	12	5.9
<hr/>			
N= 14	Mean= 209	Mean= 11.8	Mean= 5.7

The mean of the total number of words written by the good readers in the narrative mode was 252.3. The mean percentage score of words having a frequency rating of less than 50 at the grade six level was 6.4. The mean of the total number of words written by the poor readers in the same mode was 209. The mean percentage score of words having a frequency rating of less than 50 at the grade six level was 5.7. As the data in Table 29 indicate, the difference between the means of the two percentage word frequency counts in the narrative mode was not significant at the .05 level. The results indicate that there was no significant difference in maturity of vocabulary in the narrative compositions of the two groups. Therefore, Hypothesis 4 must be accepted with respect to the narrative mode.

TABLE 29

t-TEST OF SIGNIFICANCE: DIFFERENCE IN PERCENTAGE WORD FREQUENCY COUNT (-50) IN THE NARRATIVE COMPOSITION OF GOOD READERS AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	WORD FREQUENCY PERCENTAGE	d	d ²	STUDENT	WORD FREQUENCY PERCENTAGE	d	d ²
05	2.7	3.7	13.7	01	3.2	2.5	6.3
011	7.9	1.5	2.3	02	5.5	.2	.04
013	6.1	.3	.09	03	4.1	1.6	2.6
015	5.9	.5	.25	04	2.4	3.3	10.9
017	9.4	3.0	9.0	06	4.7	1.0	1.0
019	8.9	2.5	6.3	07	4.4	1.3	1.7
020	3.8	2.6	6.8	10	5.3	.4	.16
021	6.0	.4	.16	12	3.7	2.0	4.0
024	7.1	.7	.49	18	11.5	5.8	33.6
				22	12.9	7.2	51.8
				23	6.1	.4	.16
				25	3.4	2.3	5.3
				26	6.8	1.1	1.21
				27	5.9	.2	.04
N= 9	Mean= 6.4		≤ 39.09	N= 14	Mean= 5.7		≤ 118.81
df= 21		t= .603			NOT SIGNIFICANT AT THE .05 LEVEL		

Table 30 and Table 31 present the data regarding the percentage of words having a frequency rating of less than 50 at the grade six level in the argumentative compositions of the two groups.

TABLE 30

PERCENTAGE WORD FREQUENCY COUNT (-50) IN THE ARGUMENTATIVE COMPOSITION OF GOOD READERS

STUDENT	TOTAL NUMBER OF WORDS	NUMBER OF WORDS -50	PERCENTAGE SCORE
05	81	3	3.7
011	202	12	5.9
013	197	6	3.0
015	118	6	5.1
017	182	6	3.3
019	191	8	4.2
020	108	11	5.9
021	212	13	6.1
024	218	9	4.3
<hr/>			
N= 9	Mean= 167.7	Mean= 8.2	Mean=5.1

TABLE 31

PERCENTAGE WORD FREQUENCY COUNT (-50) IN THE ARGUMENTATIVE COMPOSITION OF POOR READERS

STUDENT	TOTAL NUMBER OF WORDS	NUMBER OF WORDS -50	PERCENTAGE SCORE
01	263	7	2.7
02	131	9	6.9
03	95	7	7.4
04	104	6	5.8
06	173	9	5.2
07	155	8	5.2
010	78	4	5.1
012	182	4	2.2
018	164	15	5.7
022	202	14	6.9
023	145	10	6.9
025	84	4	4.8
026	133	9	6.8
027	165	10	6.1
<hr/>			
N= 14	Mean= 148.1	Mean= 8.3	Mean= 5.6

The mean of the total number of words written by the good readers in the argumentative mode was 167.7 while the mean total number of words written by the poor readers was 148.1. The mean percentage score of words having a frequency rating of less than 50 in the compositions of the good readers was 5.1. The mean score of words having a frequency rating in the compositions of the poor readers was 5.6. Table 32 indicates that the difference in the means of the two percentage word frequency counts in the argumentative mode was not significant at the .05 level. The results indicate that there was no significant difference between the percentage of words having a frequency rating of less than 50 at the grade six level in the argumentative compositions of the two groups. Therefore, Hypothesis 4 must be accepted with respect to the argumentative mode as well.

TABLE 32

t-TEST OF SIGNIFICANCE: DIFFERENCE IN PERCENTAGE WORD FREQUENCY COUNT (-50) IN THE ARGUMENTATIVE COMPOSITION OF GOOD AND POOR READERS

GOOD READERS				POOR READERS			
STUDENT	WORD FREQUENCY PERCENTAGE	d	d ²	STUDENT	WORD FREQUENCY PERCENTAGE	d	d ²
05	3.7	1.4	1.96	01	2.7	2.8	7.84
011	5.9	.8	.64	02	6.9	1.3	1.69
013	3.0	2.1	4.4	03	7.4	1.8	3.24
015	5.1	0	0	04	5.8	.3	.09
017	3.3	1.8	3.2	06	5.2	.4	.11
019	4.2	.9	.81	07	5.2	.4	.16
020	10.2	5.1	26.01	010	5.1	.5	.25
021	6.1	1	1	012	2.2	3.4	11.56
024	4.3	.8	.64	018	5.7	.1	.01
				022	6.9	1.3	1.69
				023	6.9	1.3	1.69
				025	4.8	.8	.64
				026	6.8	1.2	1.44
				027	6.1	.5	.25
N= 9	Mean= 5.1		Σ 38.66	N= 14	Mean= 5.6		Σ 30.71
df= 21		t= 1.529			NOT SIGNIFICANT AT THE .05 LEVEL		

The above data indicate that there was no significant correlation between reading ability and the maturity level of vocabulary in the narrative writing of the two groups. In their study, Chall and Jacobs (1983) also found that the count of unfamiliar vocabulary in the narrative mode was low for both the above average and below average readers. No significant correlation was found in the present study between reading ability and the maturity of vocabulary in the argumentative mode as well. A possible explanation for this occurrence may again be related in part to the degree of the students' familiarity with the assigned topic which may therefore have placed relatively limited demands on their vocabulary particularly on that vocabulary used in writing rather than speech.

SUMMARY

This study found a positive correlation between reading ability and the overall quality of the written expression of this group of students in the narrative mode but not in the argumentative mode. No definite correlation could be established between the students' reading ability and the presence of mechanical errors in their writing. However, the presence of such errors appears to have a negative effect on its evaluation. No significant correlation was found between reading ability and the syntactic maturity or level of vocabulary in the students' writing in either the narrative or argumentative mode. Chapter 5 will include the conclusions which can be drawn and implications for instruction and research.

CHAPTER 5

Summary of the Findings; Conclusions; Implications
for Instruction and ResearchSummary of the Findings

The intent of this study was to determine whether significant differences could be found between the written expression of a group of students who, as poor writers/good readers, were exceptions to the normal pattern of language development and that of a group of students who were poor writers/poor readers. Two writing samples in the narrative and argumentative modes respectively were graded for overall quality and analyzed to determine the level of syntactic maturity and vocabulary. These same compositions, revised to correct mechanical errors, were also graded holistically. The writing of the two groups was compared with respect to the above factors.

An examination of the data revealed a significant difference between the overall quality of the narrative compositions of the two groups as indicated by the difference in their holistic scores. No significant difference was found between the scores of the two groups for the argumentative compositions. A comparison of the scores of the revised compositions indicated no significant difference in either mode. When the scores of the unrevised and revised compositions were compared for each group, no significant difference was found in the scores of the narrative compositions. However, the difference between the unrevised and revised argumentative compositions was significant for both the good

and the poor readers. No significant differences in syntactic maturity or level of vocabulary were found between the compositions of the two groups in either mode.

Conclusions

The writer is unaware of any previous research which has compared the written expression of poor writers/good readers and poor writers/poor readers. For this reason, and because of the limited number of students involved in the study, the following conclusions can only be considered as tentative.

1. There appears to be a positive correlation between reading ability and the overall quality of the narrative writing of grade six students.
2. Such elements as thought content, organization, and style are similar for both good readers and poor readers in the narrative mode as indicated by the lack of a significant difference in the scores of their revised compositions. By the sixth grade both groups of students appear to have developed an understanding of story structure. This may be accounted for by their familiarity with the narrative form of writing gained through their prior reading experiences which are likely to have been predominantly in this mode.
3. At the grade six level, no correlation is evident between reading ability and the overall quality of writing in the

argumentative mode. Both the good readers and the poor readers appeared to experience difficulty in organizing and developing their ideas perhaps because of their relative unfamiliarity with the argumentative form of writing through their reading.

4. It cannot be stated conclusively that there is a correlation between reading ability and the degree of mastery of the mechanics of writing in either mode.
5. The poor readers/poor writers experienced greater difficulty with the mechanics of writing in the narrative mode.
6. Both good readers/poor writers and poor readers/poor writers experienced significant difficulty with the mechanics of written expression in the argumentative mode as indicated by the significant difference between the unrevised and revised composition scores of both groups of students.
7. The presence of such mechanical errors in students' compositions has a negative effect on their evaluation.
8. No apparent correlation exists between reading ability and the syntactic maturity of the written expression of poor writers in either mode at this level. Perhaps subsequent studies consisting of larger sample populations will be able to find some indication of such a relationship.
9. No apparent correlation exists between reading ability and the maturity of vocabulary in the written expression of poor writers in either mode at this level. Again, an

investigation of a larger sample population may produce evidence of such a relationship.

Implications for Instruction

Based on the results of this study, several recommendations can be made for the teaching of language arts in the upper elementary grades. The level of the holistic scores of the students' narrative compositions was found to be positively related to their reading ability. Since it is logical to assume that good readers tend to do more recreational reading than poor readers, improving their reading level may encourage students to read more extensively and thereby contribute to the overall effectiveness of their written expression.

Since the bulk of the students' reading at the elementary level would likely be in the narrative mode, both good readers and poor readers will have had relatively little experience with the organization and style of other forms of writing. For this reason, teachers should continue to encourage not only increased but varied reading experiences on the part of their students.

Students at all reading levels may benefit from teacher-directed discussions and analyses of specific features of the literary forms encountered in their reading in order to encourage the transfer of such features to their own writing. This is especially important in the case of literary forms which may be relatively unfamiliar to the students

concerned.

No significant difference was found in the syntactic maturity or vocabulary level of the two groups of students in this study. This would seem to indicate that reading ability per se does not ensure that students will be able to read in the specialized manner required to gain an intuitive understanding of these stylistic devices in the reading materials they encounter. Besides the discussions and analyses referred to above, both good readers and poor readers would benefit from direct instruction in the manipulation of syntactic forms to express intended meaning. Preferably this instruction would take place within the context of the students' own writing. Vocabulary growth may also be fostered through direct instruction within the context of the students' reading and writing experiences.

Both good readers and poor readers would benefit from direct instruction in the mechanics of writing since both groups of poor writers appeared to have difficulty in this area. While thought content should rightly be stressed in the initial writing stages, direct instruction in a method of self-editing of their written work for mechanical errors would make students more independent in this aspect of the writing process.

In summary, until greater understanding of the specificity of the relationship between the reading and writing processes has been acquired, teachers can best meet the writing needs of their students in the upper elementary grades by improving their reading level and their ability to recognize and appreciate both form and content in their reading, and by providing direct instruction in specific components of

the writing process as student needs dictate.

Implications for Research

Since no other empirical evidence exists to support the findings of this study, it should be replicated with larger numbers of students and at several grade levels.

More precise measures of reading ability would be useful. These may include such measures as individually administered informal reading inventories, tests of the students' ability to read passages written at varied syntactic levels, and tests specifically evaluating the level of the students' reading vocabulary.

Future studies might investigate the possible correlation between the amount and/or quality of the students' reading and their writing competence.

As an additional measure of syntactic maturity, the revision by students of a common piece of writing such as Hunt's aluminum passage (Hunt 1970, pp. 11-12) could be included.

A comparison of the actual percentage number of errors of omission of required capitalization and end punctuation as sentence markers might provide further information as to the difference in mastery of the mechanics of written expression.

A more accurate measure of vocabulary level than exists at present is required. Perhaps future researchers could experiment to discover such a measure.

The present study has confirmed a general correlation between read-

ing ability and the overall quality of the narrative compositions of students at the upper elementary level. However, while possible trends have been identified, further research is required to verify the specific factors of the writing process which are related to reading. Future studies may investigate these factors with reference to a wider population and at varied grade levels.

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APPENDIX A

Request for Parental Permission

June 4, 1985.

Dear Parents,

In order to learn how best to help students improve their skills in written expression, it is sometimes necessary to investigate various aspects of their writing. Each investigation increases our understanding of the effectiveness of specific teaching methods and activities.

Just such a study is planned by me in the near future in which I hope to examine the connection between reading ability and writing ability. I would like your permission for your son or daughter to participate in this study which has been approved by the Winnipeg School Division No. 1. The students will be asked to complete two writing assignments. I also require your consent for me to obtain from your child's student file the score achieved by him or her in the reading comprehension subtest of the Canadian Tests of Basic Skills. These tests were administered to all grade six students in our school this spring.

The information gathered in this study will be kept confidential. Neither individual students nor their school will be identified by name. Individual student results will not be made available to your child's teachers or to the school, or to any other persons either within or outside the Division. If you have any further questions about the study, please contact me or my supervisor at the telephone numbers listed below.

Please indicate whether or not you wish your son or daughter to participate by completing the permission slip below and returning it to the school.

Yours sincerely,

Mary A. Cahill (774-8085)
Prof. E. Motheral (474-9032)

PERMISSION FORM

Name of student _____

I do consent to let my child participate in the study. _____

I do not consent to let my child participate in the study. _____

Parent Signature _____

APPENDIX B
Writing Assignments

Assignment i



Assignment i

Directions

Take a few minutes to look carefully at this picture. Think of what might have happened before this scene and what might happen afterwards. Make up a good story of your own to go with this picture.

Assignment ii

Directions

DO YOU THINK HAVING BROTHERS AND SISTERS IS AN ADVANTAGE OR A DISADVANTAGE?

Take a few minutes to think about this question. Then write your answer and explain the reasons why you think the way you do.

APPENDIX C

Segmentation Rules

1. A T-unit consists of one independent clause with all the subordinate clauses attached to it.
2. Mark the end of a T-unit with a double stroke (//); mark with a single stroke (/) any subordinate clause which falls within the T-unit.
 e.g. As Tom got dressed for the show that afternoon / he felt nervous.// The feeling was not unusual / because there's something about working with a killer whale / that makes you nervous.//
 2 T-units, 5 clauses
3. Ignore mispunctuation in analyzing into T-units.
 e.g. Just think / how much fun we could have staying back here.
 Being obnoxious and having a ball.//
4. Eliminate (i.e., strike out):
 - a. garbles, i.e., unattached sentence fragments and unintelligible word strings;
 - b. interjections (Hey! Hi, Jane!);
 - c. tag questions (won't you, isn't he);
 - d. parenthetical expressions (I guess, I think, you see),
 e.g. It's a kind of skinny tree, I guess. And there's a bush, I think, about five or ten feet from the tree.
 You see, I like him.
 (Consider the context. Semantic intention of "I think")

5. Retain:
 - a. fillers like now, well;
 - b. exclamatory words that introduce a longer expression,
e.g. Boy was he surprised.
6. Consider contractions (she's, they're) as two words.
7. Count compound words as one word if normally written as one word (bedroom, breakfast), as two words if hyphenated (fox-catcher).
8. Count as one word dates (October 1) and proper names consisting of more than one word (New York, Clear Lake National Park); but Tuesday, October 1, 1975 = 3 words; St. Paul, Minnesota = 2 words.
9. Count numbers as one word whether written in digital form (171) or in words (one hundred and seventy-one).
10. Treat so as either a coordinate or a subordinate conjunction according to context. If so is equivalent to "in order that", treat it as a subordinate conjunction; otherwise it will be equivalent to "and so" or "and therefore" and is to be treated as a coordinate conjunction.
e.g. They hid behind a rock so he wouldn't see them. (sub.)
The sun was shining, so I assumed it would be getting warmer.
(coord.)
11. Treat for as a coordinate conjunction whether it occurs at the beginning of a sentence or between two clauses within a sentence.
e.g. Tom took one step at a time going up the platform, // for he was still a bit afraid of heights.//
12. Analyze direct discourse as follows:
 - a. Discard syntactically incomplete expressions (e.g., answers to

questions which lack the repetition of the question elements), and one- or two-word answers to questions (yes, all right) unless they occur before/after he said or unless they introduce a longer expression (e.g., All right, let's go). Treat as a direct object the first expression before/after he said; this is to be done whether that expression is a sentence or some smaller fragment.

- b. Analyze subsequent words in the direct discourse into T-units according to regular rules.

e.g. John said, / "I really like Minneapolis. // But Chicago is my home // and most of my friends are there." //

"All right," I said happily. //

"Well, Sara," George drawled, / "you take the canoe." //

13. Supply any single word (or two words contracted) accidentally omitted, and count in the total.

14. a. Count the number of words in each T-unit and write the number above each double stroke.

e.g. Tom walked into the store and bought an ice cream. //

- b. At the top of the first page of the composition, record the following scores:

# Words:	W/TU:	# Short TU's:
# TU's:	W/CL:	# Mid-length:
# CL's:	CL/TU:	# Long TU's:

Note

If the subject is included after a clause beginning "and", it must be determined as to whether that clause

- a. appears independently of the principle clause

- b. is associated in a causal relationship with the principle clause (with another subordinate clause, as part of that causal relationship).