

THE RELATIONSHIP BETWEEN THE WRITTEN LANGUAGE
OF GRADE ONE AND TWO CHILDREN
AND THEIR READING ABILITY, IQ, AND ATTITUDES

by

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ABSTRACT

With the intent of investigating the relationship between the writing and reading abilities of the primary child, 108 Grade One and Two children, including 60 girls and 48 boys, were administered the Gates-MacGinitie Reading Tests and the Peabody Picture Vocabulary Test in May of the school year. Writing was assessed through the syntactic, semantic, and holistic analyses of a creative writing sample supplied by each child. In addition an individual interview was conducted to gauge the child's attitudes toward the writing process, both specifically in the context of the classroom and more generally in the child's total environment. The attitudinal survey evolved through a pilot study involving 48 Grade One children. IQ and writing attitudes were considered to be important variables in conjunction with the writing/reading relationship.

Correlational analysis identified a positive relationship between writing ability and both reading achievement and IQ for Grade Two, but not Grade One children. A weaker link was demonstrated between writing ability and writing attitudes, for Grade One subjects only.

Analysis of variance techniques showed that age differences were much more prevalent than sex differences. Grade Two children had significantly higher scores in writing ability, reading achievement, and IQ as compared to the Grade One children. The only sex difference evident was in reading achievement, with the

girls appearing to be the better readers.

Useful indices of writing ability were found in all categories - the syntactic, semantic, and holistic. Production length, syllabic count, and the number of uncommon words, T-units, and sentences, along with the ten category and quality ratings, were instrumental in identifying the ability of the individual, pinpointing age differences, and demonstrating relationships between skills.

Consistent with research findings in general, these results not only reinforce the link between writing and reading skills, but indicate the need for further study of the beginning writer and beginning reader using a variety of research paradigms.

Examiners:

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To John, who understood

CHAPTER I

STATEMENT OF THE PROBLEM

Background and Purpose of the Study

The preschool child has developed oral language competence through the practice of listening and speaking. In school the focus on literacy means a concentration on those written language capabilities of reading and writing. That the primary teacher should capitalize on the interrelationships which exist among these receptive and expressive skills is a common entreaty. The exact nature of these relationships and the best way to integrate them in the classroom is less obvious. How are writing and reading related?

Generating theory that is truly reflective of the developmental writing and reading processes and adapting practice to provide appropriate instructional scope and sequences, pedagogical strategies, and assessment techniques have occupied educators and researchers alike. Whereas beginning reading has received a concentrated research effort, the examination of written expression at the beginning levels (specifically the first and second grade), according to the research literature, has not been undertaken extensively. Generally child-centered research into the writing process has been neglected (Graves, 1981). This should provide impetus to seek a balance between reading and writing research. Pedagogical implications for the practice of reading and writing together, in some kind of optimal equilibrium, are the natural outcome of such a research

endeavour. Children's writing deserves more research attention.

Writing is an intensely personal experience. It is both a means of self-expression and an important way of creating and communicating ideas. The nature of the product, the child's piece of writing, is a highly individual and unique reflection of the child's thinking. Evaluation may tend to focus primarily on the characteristics of syntax, employing various strategies to assess syntactic density and fluency. On the other hand, it may concentrate on semantic quality, so that the theme, its development, organization, and use of imaginative ideas may be examined (Fagan, Cooper & Jensen, 1975). Is either approach entirely satisfactory, considering the individual nature of the 'product'? Can either perspective be representative, since a multitude of factors combine in any given sample of written language? Is there a more holistic approach, adequate to encompass all the relevant aspects of the writing process available to the young child, as expressed by both the form and content of his written language? How can the child's writing be examined, so as to understand better the process and the thinking it reflects? Can any outstanding or peculiar characteristics be identified in the creative writing process of the six-, seven-, and eight-year-old?

Among adults there tends to be a common understanding of the conventions surrounding writer intentions and reader expectations (Smith, 1982). Grade One and Two children do not necessarily possess this sophisticated understanding. In fact, their ego-centric perspective largely precludes consideration of an audience

at all (Britton, 1970). Young children write unbounded by the restriction of considering the reader's point of view. Furthermore, their capability for accurate self-expression may be limited, such that their writing does not fully reflect their intentions. Evaluation that concentrates entirely on either the syntactic or the semantic features of children's writing samples may thus present a restricted view of their ability. Reliance upon a number of potentially relevant types of measurement seems to be a reasonable solution to the problem of thoroughly assessing the creative writing samples of novice writers, whose skills are largely undeveloped and whose written language is qualitatively different than adults.

Children develop perceptions, feelings, and attitudes about what they are doing (Bereiter & Scardamalia, in press; Britton, 1970). These attitudes also apply to themselves in relation to the task at hand, and may be shaped by significant adults in their immediate environment. These judgments help shape their self-concepts and influence their behaviour. An attitudinal survey aimed at exploring children's views of the writing process in general, and as applied to themselves in particular, can offer a greater awareness of the child as a writer, in conjunction with the individual creative writing sample to be assessed (Graves, 1973). By inviting the child to supply a self-evaluation it is possible to gain a better understanding of the individual. Granting the child some control over the evaluation process may be expedient in obtaining a clear picture

of him or her as a young writer.

In the primary grades assessing beginning literacy is considered of fundamental importance. Seeking a precise instrument for examining the beginning writer can serve a dual role. It can clarify our knowledge of the reading-writing relationship at this particular stage of the child's development and simplify the task of evaluating the expressive skill of writing - a creative endeavour unique to each individual.

Comparing the reading and writing performance of Grade One and Two children in the light of sex differences and IQ measures should offer some insights regarding the relationship of these variables, which, in turn, might have implications for the issue of optimum instruction. Does reading ability correlate with creative writing ability? Standardized tests provide a statistically valid and reliable assessment of IQ and reading level. Evaluation of writing ability is not as clearcut. A well-defined measurement technique, which can be applied with as much confidence as a standardized test, does not exist. What are the best identifiers of the writing ability of young children? Is it possible to pinpoint specific aspects of these language skills - reading and writing - that seem to be connected? If so, what are the best predictors of writing ability?

It is the intent of this study to seek an effective means of evaluating children's writing by employing a variety of strategies. To find a reliable measure for this particular age group, which has the potential of demonstrating a significant correlation with

reading achievement and IQ scores, if one does exist, might not only help to clarify the reading-writing relationship but potentially ease the difficulty educators often face in assessing very young writers. Implications for the teaching process might exist as well in a measure which defines and clarifies the level of writing maturity of the relative beginner.

For the purpose of this study it is assumed that:

- (1) a relationship does exist between the expressive and receptive language skills of writing and reading.
- (2) these skills may also be influenced by other variables - specifically IQ, attitude, age, and sex.
- (3) considering the age group of the children involved, writing ability is not yet fully formed, and this must have implications for the choice of evaluation. Evaluation is a meaningful endeavour in attempting to describe children's abilities as they are. But evaluation involves expectation; to sensitize the investigator to children's natural abilities requires a range of measures.

Specifically, the questions to be explored are:

- (1) What is an effective way of evaluating young children's writing for the purpose of understanding the child as writer?
- (2) What kind of relationship exists between measures of children's writing ability as compared to their reading ability and a measure of intelligence?
- (3) Are significant age and sex differences identifiable when

examining these variables?

- (4) Can a measure be found which is a particularly sensitive and representative index of the writing skill typical at this age level?
- (5) How is a child's self-concept related to his or her written language facility?
- (6) In short, do significant correlations exist between the written expression of Grade One and Two children and their reading level, measure of intelligence, attitudes, and sex?

Definition of Terms Used

For the purpose of this study the following terms are defined to clarify and place in context:

Writing. "... it is the process of using language to discover meaning in experience and to communicate it " (Cooper & Odell, 1978, p. 86).

Creative Writing.

In relation to writing, the term creative is commonly used to refer to a particular type of writing. Descriptions of the writing elementary school children are asked to do generally contrast two terms: creative writing and practical writing. This dichotomy, like many others, is artificial. Creative writing is usually described as the stories and poems children write that flow from ideas and inspirations uniquely their own, and in which they are motivated by the teacher to express their feelings, thoughts, and emotions about a topic. In such writing children are often encouraged to concentrate on getting all their ideas out on the paper with little regard for conventional forms and the mechanics of writing, because the content is what is valued.

In contrast, the term practical writing is used to suggest more formal writing, done with a reader in mind, in which certain mechanical amenities are observed.

Letters and reports are among the kinds of expository writing included in this category. (Stewig, 1975, p. 12)

Attitude. A person's position or stance may be in relation to objects, ideas, activities, other people, or oneself. With respect to writing specifically, children may express their attitudes through their thoughts, feelings, or actions, and either directly or indirectly. Writing attitudes may describe a position toward the activity of writing or the self as writer:

Conceptually, an attitude is a state of mind such as a belief, an intention, a desire, or a feeling. It has an object; that is, it is an attitude TOWARD something (a belief ABOUT, an intention TO, a desire FOR and so on). And it is an intervening variable; that is, it mediates between antecedent conditions and consequent behavior. (Steinmann, 1982, p. 320)

Hypotheses

There will be no significant difference between girls and boys in:

- (a) writing ability, as measured by an assessment of a creative writing sample.
- (b) reading achievement as measured by the Gates-MacGinitie Reading Tests.
- (c) the level of intelligence as measured by the Peabody Picture Vocabulary Test.
- (d) attitudes toward writing and reading, as measured by an informal survey.

There will be no significant difference between Grade One and Grade Two children in:

- (e) writing ability, as measured by an assessment of a creative writing sample.

- (f) reading achievement as measured by the Gates-MacGinitie Reading Tests.
- (g) the level of intelligence as measured by the Peabody Picture Vocabulary Test.
- (h) attitudes toward writing and reading, as measured by an informal survey.

Considering first Grade One children and then Grade Two children separately, there will be no significant correlation between:

- (i) writing ability as measured by an assessment of a creative writing sample and reading achievement as measured by the Gates-MacGinitie Reading Tests.
- (j) writing ability as measured by an assessment of a creative writing sample and IQ as measured by the Peabody Picture Vocabulary Test.
- (k) writing ability as measured by an assessment of a creative writing sample and attitudes toward writing and reading, as measured by an informal survey.

The level of significance required for the rejection of each null hypothesis is $p < .05$.

Limitations of the Study

1. The choice of reading test, intelligence measure and mode of discourse were arbitrary. Other evaluative techniques employed to assess intelligence and reading ability may have yielded different results. Had an alternative to the narrative discourse mode been chosen, semantic and syntactic measurements of the children's

compositions would most likely have varied (Crowhurst, 1980). The selection of other evaluative instruments, either to assess the creative writing sample or to gauge writing attitudes, could have resulted in different findings. Therefore the correlations produced by these measures might not be replicated with the use of other similar measures.

2. The restraint of discourse mode to narration was further controlled by the imposition of topic choice and time limitations, conditions not necessarily conducive to eliciting representative writing samples from all the children involved in the study.

3. Conclusions from this study are not necessarily applicable to other groups of children. Although the subjects comprised the entire available population at the first and second grade level on Salt Spring Island, British Columbia, and potentially are representative of children everywhere, it is desirable to extend these findings by examining the relationship between these variables with other groups of children, using these and alternate measures.

4. Correlational data offer insight into behavioral patterns. By examining what children write, by establishing a level of cognitive ability, by looking at reading performance, it is possible to get a sense, collectively, of the relationship between these variables. However, correlational studies cannot demonstrate causality. Also, the process that the individual goes through, in exhibiting these behaviours, is lost.

5. One index used to measure the creative writing samples was the

teacher rating. Its reliability may be in question since it involved the intuitive judgment of a total of six different teachers, and each employed slightly different criteria in determining how accurately the child's composition reflected his or her writing ability. Although it must be remembered that its nature is highly subjective, this measure provided a valuable rating which the investigator could not specify.

6. The validity of the measurements taken may have been confounded by the time of year in which testing occurred and/or the unfamiliarity of the investigator. Testing toward the end of the school year may be in competition with field trips and other special activities. The investigator's attempt to establish rapport with children quickly during individual testing and interviewing situations may not have been successful in every case. For some children then, these measurements may have been invalidated by circumstances outside the control of the investigator.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter presents a review of the literature pertinent to this study and is divided into the following sections: 1) the development of the child's writing ability, 2) the evaluation of writing, 3) correlational studies, and 4) children's concepts and attitudes toward the nature of writing.

The Development of the Child's Writing Ability

How does a child move from a global, prespelling concept of letter forms expressing a message to a concept of writing that includes representing words through an alphabetic spelling system, using and selecting appropriate compositional forms, being aware of an audience, and changing styles in accordance with that audience? In other words, how does a child learn to write? (Bissex, 1980b, p. 197)

This developmental sequence has its roots in the child's preschool years, but continues to unfold either nurtured or impeded by the school environment. What stages are evident as children acquire the ability to express themselves in written form?

Clay(1975) observed that as five-year-olds began to create written messages they followed certain learning principles. The basic sign, message, and space concepts, once mastered, meant the realization that messages accompanied signs, that spoken messages could be written down, and that words are spaced in their sequential organization. Playful experimentation was evident as children moved from the imitation of copying to invention, by repositioning

letters, generating new arrangements of elements, and displaying reversals. Taking inventory of their learning, children realized that letter elements recur in variable patterns, that directional principles guide the conventions of written language, that pages and books have standard arrangements, and that language is contrastive at several levels. As children were allowed free exploration they moved from the rudimentary sign concept to an understanding of written language standards and structures. The pleasure of self-expression was replaced by the concern to communicate a message to others which could be comprehended. The child's growing sophistication seemed to be developmental in nature and was evidenced by his production of written discourse which was more and more conventional.

The linguistic innovation of children in their oral language acquisition was demonstrated once again by the invented spelling systems of those five- and six-year-old children who wrote, often before they read (Chomsky, 1976). Children compose words through phonetic analysis, grouping alphabet letters according to their sounds as they perceive them. The nonstandard spelling results are systematic and uniform across children, demonstrating the willingness of children to experiment with language, and their motivation to make sense of it. They display phonological competence and show understanding of logical abstract principles. This growth seemed to be indicative of a developmental pattern shared by children. It suggested also that perhaps the ability to write

actually precedes the ability to read and so should be used to introduce it.

The spontaneous writing of approximately fifty children, aged two to seven years, was the subject of investigation by one researcher (DeFord, 1980). She found that although children's writing may be unconventional, it is not random or disorganized. Writing purpose began with the differentiation process whereby what is drawing and what is writing is discriminated and the child commanded the parent, "Read it to me." Then the young child's scribbling often assumes symbol-like quality and shows some appreciation of writing form conventions, in the child's attempt to represent meaning to himself and others. Children are compelled to practice, realizing the power of their writing to interest others. DeFord posits a flexible developmental framework with the gradual incorporation of concepts and principles similar to that proposed by Marie Clay (1975). From letter knowledge to larger group units, from letter/sound correspondence with isolated words to invented spellings for whole sentences, the sequence emerges. Children come to express complete thoughts through a group of sentences and to exercise control over punctuation and discourse form. She stressed the writing continuum, such that the strategies and concepts of the preschool child be recognized as vital prerequisites to the abstract level functioning of the accomplished writer. As well, explorative opportunities constitute legitimate writing, even before arrival at spelling and spacing conventions, or punctuation and discourse

control.

Harste and Burke (1980), in a paper drawing on data collected from sixty-eight three- to six-year-olds, attack current instructional assumptions. They charge that what is actually constant growth appears sporadic because of the imposition of superficially identified "developmental stages". These so called stages direct attention away from the underlying universals of written language literacy, which find expression in a variety of forms, and are operant in all language users, regardless of age. They explain:

If one views each instance of written language use as the orchestration of a complex social event, then what the initiate written language user is faced with is a problem of some magnitude. As varied elements in this event are perceived, new hypotheses are generated and tested. The hypotheses are concerned with pragmatics (what are the rules of language use relative to a particular context), semantics (how can I say what I mean), syntax (how do I get the flow of my message captured on paper), graphics (how do I represent what I wish to say), and the orchestration of these systems (how do I draw on all these systems simultaneously). Within each of these areas there are, of course, a range of hypotheses which need formulation and fit. Additional hypotheses arise as more and more elements are orchestrated. What looks like regression, given the assumptions underlying one theory, signals growth from another theoretical perspective. (p. 175)

Support for this viewpoint may be found in Luria's (1978)

summary of his experimental work:

Writing by no means develops along a straight line, with continuous growth and improvement....the profoundly dialectical uniqueness of this process means that the transition to a new technique initially sets the process of writing back considerably, after which it then develops further at the new and higher level. (p. 106)

He also stressed the importance of experimentation for the child:

One thing seems clear from our analysis of the use of signs and its origins in the child: it is not understanding that generates the act, but far more the act that gives birth to understanding - indeed, the act often far precedes understanding. (p. 113)

By way of introduction to the question of how Grade One children specifically are acquiring writing skills, an examination follows of the research documented by the literature prior to 1960.

Bear(1939) described the sentence structure in the written language of children in elementary grades One through Eight. Grade One stories averaged three sentences in length, contrasted by the ten sentence average for the Grade Six narratives. Sentence types included simple (90%), complex (less than 4%), and compound (2%). Incomplete sentences were written by 28% of the children, and only 10% used one or more run-on sentences. This study indicated that the gradual mastery of sentence structure in written expression is developmentally determined for each individual, with noticeable differences existing between Grade One and Two children.

Hildreth examined the interrelationships between written expression and the other language arts in her 1954 summary of the literature. Briefly, she found that learning to use written language follows a developmental sequence, and that readiness includes good oral language, both an interest and ability to communicate ideas, and psychomotor skill.

In a study of the language development of 240 first grade children, Martin (1955) focussed on the interrelationships of oral language, writing, reading, spelling and drawing. Fine motor

ability was linked to handwriting, but otherwise different language parameters were shown to develop independently, stressing the individuality of the language growth pattern, unfolding for each child in zigzag fashion.

Since the 1960's the compositions of school-aged children have been the subject of increasing interest. Most attention has gone however to the writing of children at the grade three level or higher. Developmental trends in the frequency of a variety of grammatical structures written by 54 students of average IQ in Grades Four, Eight, and Twelve were sought by Hunt (1965). One thousand words of free writing from each child were analyzed for T-units, which are minimal terminable units, each comprised of one independent clause and all associated subordinate clauses. Findings showed that average T-unit length and average clause length are superior indices of grade level than the clause per T-unit ratio or punctuated sentence length. Older subjects employed less coordination and more subordination, especially adjective clauses. While young children wrote strings of independent clauses, older children wrote more on a given topic in the form of longer sentences. With increasing maturity, they lengthened their T-units by attaching more subordinate clauses to them, embedding clauses within them, and consolidating ideas into phrases and words. Quantitatively then, by viewing the amount of 'packing' done within an independent clause, it is possible to glimpse the qualitative developmental differences characteristic of children at different ages. Syntactic growth in writing centered around the reduction and consolidation of many clauses into one.

O'Donnell, Griffin, and Norris (1967) were able to confirm the efficacy of the mean T-unit length as a simple, objective and valid indicator of children's development of syntactic control. They studied 180 middle-class children in kindergarten and Grades One, Two, Three, Five, and Seven. They also demonstrated a steady increase, both in speech and writing, of sentence-combining transformations at successive grade levels.

In two studies conducted by Stahl (1974, 1977) several hundred children in Grades Two, Five, and Eight, from a variety of ethnic backgrounds, wrote descriptive compositions. These were subjected to an overall structural analysis using a nine-category instrument developed by the author. At the Grade Two level, Stahl found that there was no evidence of planning, no indicated order of presentation, no attention to selection, arrangement or balance. Poor use of connectives characterized the predominantly simple sentence format. Structural revision was lacking and the compositions tended to just break off.

In her 1977 study to compare the oral and written syntax attainment of second graders using the Sentence Construction Test, Harris asserted that oral and written syntax competencies were different, being neither reflective of nor parallel to each other. It would seem that writing is more than simply "talk written down". Differences in the mechanical processes of speech and writing, the auditory or visual memories involved, and the "book dialect" associated with writing may possibly account for the discrepancies.

Groff's (1978) extensive review of the literature disputed the assumption that children's oral and written language share a strong positive relationship. Empirical evidence to support this belief was simply not available. Expecting fluency in oral language to be a necessary precursor for the enhancement of written expression is dangerous presumption. Research suggested that children's first written compositions are meager and disjointed, not because of any absence of oral fluency, but rather because of "their limited control over the mechanics of writing and of their lack of knowledge of the abstract quality of written language." (p. 188).

Sulzby (1982) studied twenty-four kindergarten children, from literate upper-middle-class backgrounds, and found they responded differently to storytelling and story dictation tasks. Children were able to differentiate between telling for a listener and dictating for a scribe, thereby discriminating between two tasks for which their reaction could have been identical. In storytelling, children adopted an interpersonal and interactive communication form much like conversation. Dictation, on the other hand, was adapted toward the constraints of handwritten composition, especially by those children who demonstrated higher reading related abilities. Significant was the sensitivity many children displayed to conventions of the writing system.

Graves (1973, 1975) was one of the few researchers who was anxious to consider the writing process of young children, as well as analyzing their writing products. He began by examining the

influence of sex and environment on the writing behaviour of ninety-four seven-year-old children over a five month period. The children comprised two formal and two informal classrooms. The amount of choice children were given in determining their own learning as well as the degree to which they could function independently defined the classroom's designation. Writing folders kept for all the children were intended to document general writing habits and were assessed for thematic interests, writing frequency, writing type (assigned or unassigned), length, accompanying illustrations, and teacher comments. Writing was defined as any unit completely composed by the child of at least a sentence in length. For assigned writing there was an expectation for completion, while the unrequired type showed the child's initiative and choice in writing.

Graves found that the greater choice afforded children in informal environments resulted in more frequent and longer writing products. Children required neither supervision nor motivation. Whether assigned or unassigned, girls wrote more, at greater length, in formal settings, while boys responded to informal environments. In all situations, unassigned writing exceeded assigned writing in length. Excessive assignments ultimately inhibited children's writing. Sex differences were found as well. Girls wrote longer products generally and usually about primary territory (home and school). Boys composed more unassigned writing than girls, with thematic diversity - about secondary and expanded territory (that extending beyond home and school boundaries).

Naturalistic observation was used as well to describe fifty-three unstructured writing episodes of fourteen children and allow analysis of the actual writing process. Artwork or discussion may have been involved in the thematic choice of the prewriting phase, whereas attention to such factors as spelling, proofreading, resource use etc., characterized the composing phase. Behaviours which followed the completion of the message defined the postwriting stage.

Graves found that the child's sex, use of language, and problem-solving behaviours interacted as the child wrote to produce two types of writers, those either predominantly 'reactive' or 'reflective'. A pattern of distinctive behaviours in such areas as problem solving, talking while writing, rereading, rehearsal, sense of audience, and critical self-evaluation was exhibited by each type. Although these characteristics existed to some extent in all children, emerging under different types of writing conditions, Graves found that boys tended to be reactive and girls reflective in their approach to writing.

Four sessions of interviews with seventeen children sought children's views of their own writing and their concepts of the 'good writer'. Children offered ratings with rationales in evaluating their own writing folders. Boys stressed the importance of spacing, letter formation, and neatness for the 'good writer', while girls considered organizational qualities, prethinking, supporting judgments with illustrations, and putting feelings in

their characterizations as vital attributes.

Case study investigation with eight children involved intensive data collection. Parent interviews, testing, composing an educational-developmental history and observation were meant to validate general findings with a small group representative of 'normal'. It was learned that many variables contribute to the writing process for any given episode; influences that were outstanding included the family, teacher, peers, and the child's developmental characteristics. For the individual specific reasons, coping strategies, and attitudes accompany the writing process, so that it is as unique as the child's personality.

An earlier study by Graves (1973) explored sex differences in thematic content, specifically in the areas of aggression, dependency, and territorial expansion. Boys' writing content, in secondary and extended territory, was aggressive, violent, and lacked the perspective of the first person, I. Their characters, projected into the third person, demonstrated action rather than feeling and were often omnipotent. Girls, concentrating on primary territory, objectively wrote about themselves through the first person, expressed personal feelings, and developed their characters. Developmental maturity comes with the crossing of invisible boundaries, as boys use the first person and girls choose secondary territory for their writing.

Graves (1979) carried out a case study of a six-year-old beginning writer during the first half of Grade One. It was

helpful as a description from a developmental viewpoint. Like all writers, the subject, Sarah, went through a prewriting planning activity - for her specifically, talking and drawing. Playful in her writing, revision was not needed to clarify the meaning for others, when it was obvious to herself. To the egocentric child, the audience posed no restriction. Sarah devised escapes from her writing just as an adult might, to achieve distance. She took breaks, which often gave the appearance of procrastination. Unfamiliar material and form require objectivity for incorporation into the writing, and the child demonstrated adult-like behaviour to accomplish this, by devoting more attention at these crucial points. Areas of writing competence may suffer temporarily as the child tries a new approach. In trying to solve a new problem, previously met standards of correctness in syntax and mechanics may slide.

Beginning writers did not seem able to revise, even when they perceived a problem in their writing (Graves, 1979). Narratives were the preferred discourse mode at this level. Thinking and playing on paper, children discover their meaning as they write; they find out what their stories are about as they go along. Permission to err was needed to foster growth in writing, as children were allowed to experiment with rules and formalities. Gradually seeing writing as a product, and glimpsing an audience, children become concerned with convention and correctness. The need to communicate and a sense of performance give new purpose to the young writer. He learns to plan and draw upon resources outside himself.

Children demonstrated revision in other media forms - block building, drawing, painting - before writing. At the very beginning of their writing careers children did not revise. Children often put words down in their early writing to create a certain feeling - their writing is impressionistic. Invented spelling systems evolved progressively through inventions, transitional words, stable inventions, culminating with sight words. As the system changed, children were more apt to revise words in the latter two categories. Factors that aided composition revision were free topic choice and peer audiences.

Through repeated use of the case study method Graves was able to pinpoint common developmental trends in the neophyte writers, while preserving an appreciation of the individual's journey in reaching one aspect of literacy.

King (1978) stated that there was a need to understand the writing process within a larger more cohesive theoretical framework. She also declared that it was essential to consider the composing process in context. "Writing takes place in an environment that shapes the purpose, function, writer-audience relationships, and modes of discourse; to a large extent the context determines whether or not writing will occur " (p. 193). She alluded to the fact that the school is a limited environment. "There is reason to believe that an individual's intention releases tacit powers that are not exhibited when he is merely rehearsing or practicing a skill or technique " (p. 197).

One literature review indicated that much research needs to be done into that transitional period when reliance on oral language comes to incorporate written expression, or when children acquire writing. One problem is lack of definition of the process. King and Rentel (1979) explain that "These crucial first steps have gone unnoticed and unobserved, perhaps because their signification has not been illuminated by theoretical formulations and predictions." (p. 252). They perceive some prerequisites in the shift from spoken messages to written text. One, sustained speech, is the child's independent utterance, which needs no feedback, questions, or prompting for its support. The child provides his own cues, and needs no collaboration. When children retell stories they give evidence, in their sustained speech, of their internalized story schema. A developmental progression of story conventions and narrative structures becomes apparent in the preschool child. Children must also be able to take control of the interplay between what they understand about their audience, situation, and intentions, and the elements of their utterances.

King (1980) outlined three key streams of development for the child's first eight years in the areas of oral language, written language, and concept of a story. Growth was based on linguistic and story knowledge, as well as the child's personal knowledge of the world. Children realize that writing and speech are different, observable with the shift in intonation and style of their dictated stories (also observed by Sulzby). They reveal their understanding

of the written language form in their sentence, word choice, and phrasing. To their use of language as functional and interpersonal (speech), they add the ideational (written language). The latter is referential, containing real experiences originating either in the real world or the internal realm of the child's consciousness. It serves thinking, with the organization and expression of knowledge, and the realization of the logical relations in experience.

In a 1981 longitudinal study conducted by King and Rentel, seventy-two children, chosen to represent two dialects and two socioeconomic groups, were studied over sixteen months. Story telling, story dictation, and story writing tasks were carried out with the Grade One and Two children, who were allowed to develop in a school environment conducive to writing. Cohesion, the establishment of semantic relations by tying the interpretation of text elements together, results in internally consistent texts. As children made the transition from oral language to written texts, early sex and dialect differences were reduced, and the text-forming strategies of the children became increasingly comparable. Middle-class children progressed at twice the rate of lower-class children in terms of their ability to comprehend and recall text and to sustain and broaden the range of elements employed in producing oral and written fictional narratives. The degree of exposure to stories enjoyed by the children may have been responsible for the elaboration of their rhetorical schemata, which in turn resulted in differences in their text production. Middle-class children also

began and remained at an advantage in terms of their concept of message, their understanding of the consistency of letter combinations specifying the relationships between signs and meanings.

Over time children wrote longer compositions and exhibited rapid growth within the writing genre explored, increasing elements to produce more 'well-formed' stories.

Bereiter finds inadequate the frequency count view of writing development (Hunt, 1965; Loban, 1976; O'Donnell, Griffin & Norris, 1967) which is reflective of a linguistic conceptual framework. One variable, cognitive strategies, which is relevant to commonly held purposes of writing instruction, falls rather within an 'applied cognitive-developmental' framework. Such concerns as fluency, coherence, correctness, sense of audience, style and thought content can be better addressed from this perspective. Qualitative changes and development at the discourse level need exploration, as attempted by Britton and his associates in their comprehensive research.

Britton (1970) describes the 'expressive' writing that young children exhibit, which is much like transcribed speech. This writing is typically uninhibited, unplanned, and unconcerned with audience reaction. The child's egocentrism totally prevents his escape from his own viewpoint, to even suppose the possibility that other viewpoints exist:

We have already noticed a parallel between a poet's use of language and a child's speech, both exemplifying 'the delight of utterance'. That delight dovetails here with the joy of making an object; and puts the writing firmly

in the spectator role. Teachers have built upon this foundation, and a good deal of early writing in the primary school is not aimed at telling anybody anything but at producing 'written objects' - something to be mounted and displayed, or collected in a folder; something that deserves to be embellished, illustrated and to go along as part of the possessions of the group. This is spectator role writing: it is therefore a kind of poetry, a kind of literature... (p. 164)

Children go from expressive to transactional writing and in this shift there is a transitional time; the writer includes things about himself apart from what he is attempting to communicate. In addition to the message which he sets out to communicate there are expressive features which tell us about the writer and bring the experience to life for him:

Expressive language provides an essential starting point because it is language close to the self of the writer: and progress towards the transactional should be gradual enough to ensure that 'the self' is not lost on the way: that on arrival 'the self' though hidden, is still there. It is the self that provides the unseen point from which all is viewed: there can be no other way of writing quite impersonally and yet with coherence and vitality. (p. 179)

Transactional writing persuades, advises, informs. Britton's data supported his hypothesis that the undisciplined expressive writing develops and branches to 'transactional' and 'poetic' writing. The school's examination system, however, seemed to be responsible for the drastic decline in poetic writing among older children. Generally Britton and his associates found that the influence of school demands on the writing of children is so powerful that the audience that the child learns to write for is teacher as examiner: "... as soon as we begin to look beyond syntax, vocabulary, and the like and try to investigate functional

aspects of student writing, we begin to find out more about the school system than we find out about children " (Bereiter, 1980, p. 77). What remains is the problem of ascertaining a 'writer-based' rather than a 'text-based' picture of the developmental process of the writer.

As with reading, one of the problems that young children face is the lack of automaticity of many parts of the writing process. Their attention, demanded simultaneously in a number of areas, is consumed with low level functioning - the mechanics of getting language down on paper - to the deficit of higher order concerns - content.

The tentative knowledge about writing development that exists has focussed on what children do rather than what they can do. Bereiter advances a provisional model of the structurally distinct and often successive stages of writing development. Simplest is associative writing, which combines fluency in producing written language and fluency in generating ideas. School attempts to shape this associative writing to conform with the conventions of style and mechanics. This is performative writing. These two writing types may be often in conflict. Communicative writing is performative writing with social cognition - the ability to take account of the reader. It is transactional, by Britton's definition. The written product may be fashioned, in unified writing, as the writer adds his own perspective as a reader to the perspectives of others. A writing-reading feedback loop is created whereby the writing must

please the writer as well as his audience. A personal style can emerge.

Reflective thought allows epistemic writing, which is a personal search for meaning as writing transcends being a product of thought to become an integral part of it. Research has demonstrated children's associative, performative, and communicative writing forms. Are the unified and epistemic writing skills beyond children, or simply beyond the powers of research methodology to reveal? Bereiter believes the fault lies with research and the questions it has asked thus far. 'What' questions - about form - need to give way to inquiries about 'how' - function.

Children reinvent language. They construct rules and abstract principles. They solve problems. They revise. They consider the perspectives of those around them. They are stimulated by the errors they perceive. Bissex (1980a), in her case study of her son's development in reading and writing, summarizes:

Learning to write and read are processes shaped by more comprehensive patterns of human growth and learning: the acquisition of universals before culture-specifics, development from global to differentiated and integrated functioning, and movement outward beyond the immediate in time and space and beyond our personal perspective - what Piaget had called 'decentration'. (p. 200)

Paul's preoccupation with naming at age five gave way to categorization, and finally to informational writing. Increasing realism, differentiation, decentration, and the often non-parallel growth of form and function were the processes patterning his development.

The Evaluation of Writing

Lyman (1929), in summarizing and offering a critical analysis of writing research, was concerned that the complexity of composition quality defied constituent analysis. He found that the measurement of pupil products carried with it the assumption that the intricacies of the mental operations in which children engage when writing were also being evaluated. He disputed the usefulness of early 'composition scales', which attempted to provide a standard for discriminating degrees of excellence by comparison with model compositions.

Sentence structure came to offer a unit of measurement to researchers. The assumption that longer sentences demonstrate complexity and maturity of syntactic control is thwarted by the tendency of immature writers to run independent clauses together, often free of coordinating conjunctions and punctuation. LaBrant's (1933) subordination ratio - the ratio of dependent clauses to total number of dependent and independent clauses in the writing sample - was an early effort for precision and showed that until the age of sixteen the percentage of dependent clauses in writing increases. Loban's (1963) 'communication unit' and Strickland's 'phonological unit' segmented speech for research purposes. The analogous substitute for the sentence in written language was the 'minimal terminable unit' of Hunt (1965), more simply known as the T-unit.

The basis for Hunt's quantitative study of syntactic structures,

the 'minimal terminable unit', was so named because of the minimal length of the unit, each with the grammatical capability of being terminated with a capital letter and a period. The T-unit represents a potential index of maturity, preserving intact the subordination the student has achieved, as well as the coordination between words, phrases, and subordinate clauses. It contains a single independent clause with all the subordinate clauses that need to be attached to it so that no fragments are left in the text. So the T-unit is the shortest unit that a piece of discourse may be divided into without leaving residual elements.

The Syntactic Complexity Formula, developed by Botel and Granowsky (1972) is an appropriate way to analyze the written language of children. Leaving the assessment of story content and coherence to intuitive guidelines, the authors focus on the quantifiable identification of syntactic structures according to transformational-generative grammar theory. Each sentence is given a score, designating the number of lexical units it contains, with weightings to reflect relative complexity. The mean of these scores represents average syntactic complexity.

Similarly, Endicott (1973) devised an instrument, based on the basic T-unit, to measure syntactic and morphemic complexity. The numerical value assigned to each word reflects the transformations, deletions, and combinations performed in constructing more complex sentences. An indicator of student maturity in writing, it potentially reflects the composition of the T-unit: "... the extent to

which a child combines units of complexity in language involving suspension of thought and mental manipulation of syntactic structures before he breaks off and begins again" (p. 6).

O'Donnell, Griffin, and Norris (1967) computed the mean number of sentence-combining transformations per T-unit in addition to the mean T-unit length, as important indices of children's syntax. The relative density of transformations, where one kernel sentence is embedded within another, signifies the degree of maturity. The positive correlation found between these two measures favours the mean T-unit length as a simpler computation. It would seem that the T-unit length provides a manageable and precise index of syntactic complexity and development; more complex analyses which have been devised are often variations on this basic concept and may represent unnecessary complications in the evaluation process.

Believing that children mature, not only in their knowledge of language, but also in their awareness of narrative structure and audience, McDonell and Osburn (1980) developed a formal "Beginning Writing Assessment", offering a checklist format to follow the child's developmental sequence from readiness (beginning writing), through transition to the composition level. The initial expectation for coherent sentences expands to consider such aspects as original thought, story completeness (beginning, middle, and end), expression of feelings, use of written conventions, and awareness of audience. Mastery at the first two levels is a prerequisite to assessment at the composition level. Not only is this checklist

intended to increase the awareness that writing is a developmental process, it is meant to demonstrate that error patterns in writing can be indicative of growth.

Stahl (1974) provided a nine-category instrument for the analysis of overall structure and completeness of children's compositions. His emphasis was on the semantic maturity displayed by young writers. The features evaluated include the indicated order, principle of selection, methods of arrangement, syntax, balance, organization, connectives, opening and conclusion, and each of these was weighted on a five-point scale.

Another illustration of the attempt to assess the semantic quality of children's narrative compositions is the eighteen-set scale developed by Glazer (1971). Plot, divided into elements of originality, beginning, and internal logic, is measured with a score of 1, 2, or 3, as is inclusion of detail, ending, theme, setting, and characterization. Style is considered through such aspects as the title, dialogue, emotional quality, unusual elements, variety of sentence structure, connective use, and word usage (including vocabulary, figurative language, names, pronouns, and verb tense).

In the examples of evaluative techniques given thus far, either syntactic or semantic features are given priority. A piece of writing may be judged as a whole by an approach known as holistic scoring. The writing's effectiveness and adequacy is gauged intuitively by the experienced reader, who automatically considers all

elements - from mechanics to organization of ideas - in arriving at an overall sense of the writing's quality. The general impression of how well ideas - appropriate to a particular writing task - are communicated presumably incorporates syntax, word choice, the coherence, organization, and expression of ideas, and conventions of spelling, capitalization, usage, and punctuation.

Assessing writing samples holistically implies that a quality rating, balanced in its attention to all details, is constructed free of bias. Stewart and Grobe (1979), in an analysis of student expository writing, determined that essay length and freedom from spelling errors influenced the holistic quality scores which teachers awarded. These characteristics determined the ratings over such considerations as syntactic maturity and mechanics. These findings were replicated using the narrative writing samples of Grades Five, Eight, and Eleven students by Grobe (1981). Good narrative writing, as perceived by teachers, seemed closely associated with the diversity of the vocabulary. Holistic scoring may in effect be but a desirable illusion, the process swayed by any outstanding feature of the writing to which the rater is partial.

This discussion should serve to underline the fact that the evaluation process is both complicated and difficult to carry out. Agreement about objective measurement, easily quantifiable, permits a glimpse of the syntactic complexity of written language. Semantic aspects of written expression are discerned through the more subjective and intuitive ratings of individuals. Agreement here depends

on the often time-consuming arrival at a consensus by several judges, by attempting to construct parallels in their thinking. The apparent ideal offered by the holistic scoring approach is plagued by the perilous assumption that the rater can and will simultaneously weigh all elements realistically to form an accurate general impression.

While avoiding unnecessarily complex analysis for the assessment of primary children's writing ability, it is the intent of this study to employ techniques encompassing simultaneously syntactic, semantic, and holistic evaluation approaches. Applying a variety of measurement permits the chance of overlap and intersection, thereby strengthening the developmental picture of young writers.

Correlational Studies

Wallen and Stevenson (1960) assessed the relationship between creative writing scores for sixty-three fifth grade children and measures of IQ, academic achievement, and social adjustment. Writing assessment consisted of a single-criterion five-point scoring system for creativity - the evidence of original thought in the expression of information, ideas, and feelings. Five teacher judges, after preliminary training, contributed a score for each of three compositions produced by each student and from these fifteen ratings was derived a single creativity score. This composite creativity measure was correlated with both standardized test results for academic achievement, and teacher grades.

Correlations indicated a substantial relationship, significant at the $p < .01$ level, between the creativity score and language achievement (.72), reading achievement (.71), and arithmetic achievement (.66), as defined by the intermediate level of the California Achievement Tests. The correlation with school grade average was .66, with IQ based on the California Mental Maturity Test was .57, and with the teacher rating for social adjustment .45. A measure of creativity in writing was highly related to academic proficiency, general intelligence, and social adjustment. The authors concluded that creativity in writing, related to general academic and intellectual skills, does not exist in a vacuum.

Yamamoto (1963) supported the Wallen and Stevenson findings in his examination of seventy-nine pupils in grades three to six. Tests administered included the Imaginative Stories task, the Stanford-Binet, the Iowa Every-Pupil Tests of Basic Skills, and the Minnesota Battery of Tests of Creative Thinking. Correlation coefficients between three creative writing scores (composite, originality, and interest) and reading, work-study skills, language skills and arithmetic skills were all significant at the $p < .001$ level (.46 - .70). The correlations with IQ were somewhat lower (.28 - .43) and with creative thinking lower still (.11 - .30). The author suggested that general intelligence does not play a main role in creative thinking and that the tasks yielding creative thinking and creative writing scores involved different dimensions of creative performance.

Loban (1963), in his seven-year longitudinal study of 338 elementary school children, linked the socioeconomic status of third graders to their writing ability. Their superior writing ability, as judged by sentence patterns, vocabulary, ideas, form, spelling, punctuation, relevancy, clarity, and development, was paralleled by high oral language and reading ability. For Loban's subjects a high interrelation between reading and writing was more apparent in the intermediate grades, such that universally, those subjects who read well always wrote well also.

The highest correlation in Loban's study (.84) existed between vocabulary (type-token ratio) and intelligence (as measured by the Kuhlmann-Anderson group test of intelligence), leading the author to conclude that vocabulary, group intelligence test success, and language proficiency are aspects of the same trait or form a cluster of traits. In addition he observed that spoken language competence appeared to be a necessary prerequisite for competence in reading and writing.

In a 1968 correlational study carried out by Woodfin, 556 Grade Three children were assessed to determine the relationship between their written expression and language ability, reading level, intelligence, socioeconomic status and sex. The seven compositions written by each child on topics of his or her own choosing were subjected to ranking on a nine-point McClellan Scale by three judges for the effectiveness of idea expression and organization. Composition length and number of words written

per minute were also taken into account when correlating with scores from the Iowa Tests of Basic Skills (language ability), Gates Advanced Primary Reading Test (reading ability), and Hollingshead's Scale for Occupational Levels (socioeconomic level). No product-moment correlation coefficient exceeded .54, with socioeconomic status and sex proving to be the least reliable predictors of writing ability and reading ability and language scores the most consistent. Interestingly, aspects of the McClellan Scales - reader interest, vocabulary, ideas, uniqueness, colourfulness, imagination, sensitiveness, and organization of ideas, developmental sequence, sentence structure, and cohesiveness - comprised that part of the writing evaluation correlating most highly with other language measures.

Sheldon (1971) found that significant variations in reading ability among his Grade One subjects was accompanied by parallel syntactic ability variations. He also linked reading ability more significantly to intelligence than socioeconomic status, chronological age, or sex.

A 1974 investigation of the relationship between children's written language performance and their reading ability was carried out by Evanechko, Ollila and Armstrong, and involved 118 sixth grade subjects. Children's compositions on "The Last Person on Earth" were analyzed making use of the Botel and Granowsky Formula for Syntactic Complexity, supplemented by Loban's communication unit (the minimal word group conveying a meaning). The Bond-

Balow-Hoyt New Developmental Reading Test Intermediate Level was used to measure reading ability. A strong relationship between language skills was reinforced by the significance at the .05 level of 76% of the correlations between reading and language measures. Regression analysis demonstrated that the total number of communication units and two count structures were the best predictors of reading achievement. These predictive measures represent the fluency of language expression (number of ideas) and its sophistication or control of syntactic complexity. Reading success was most closely linked to the total number of communication units in the children's written language.

This work was extended in a longitudinal study carried out by Evans and Ollila (1980) considering the linguistic relationships between the reading performance of one hundred primary children and their grammatical and rhetorical skills in writing. The Bond-Balow-Hoyt New Developmental Reading Test Primary Level was used to assess word recognition and comprehension of significant ideas and specific instructions. Two compositions per child, one a story completion and the other a story on "The Wishing Stone", were scored employing a modified version of the Botel and Granowsky Formula for Syntactic Complexity. The strength of the reading/writing relationship improved dramatically with age and type of written language experience. As with the six graders, measures of fluency and flexibility in writing related to reading performance. Written fluency - as represented by such measures

as coordinate clauses and nonsentence expressions, communication units and their average length - as well as control of syntactic complexity - displayed by noun modifiers and other transformations and structures - proved to be common ground shared by both language modalities. The limited range of writing and reading experiences of the beginning primary child make establishment of statistical relationships difficult. The child's maturation provides for the application of basic language principles to all language modalities and thus more complex written language elements evolve as predictors of reading performance. This serves to strengthen the researcher's perception of the underlying relationship between expressive and receptive language.

The Peabody Picture Vocabulary Test measured the pre-kindergarten verbal ability of eighty-one Grade Three children whose writing skills were compared with reading skills, self-concept, and sex in a 1981 correlational study by Baden. Other instruments utilized were the Test of Written Language, Written Expression Checklist, Woodcock Reading Mastery Tests, and the Piers-Harris Children's Self-Concept Scale. Writing performance was found to be related to composite reading skills at the .001 level of significance, to pre-kindergarten verbal ability at the .01 significance level, and to self-concept at $p < .05$. Sex differences for composition skills were not demonstrated.

A wealth of research probing the relationship between reading and writing is not currently available. Conspicuously absent is

the examination of the interconnections between these processes at the level of the beginner in school - the Grade One child.

In her carefully documented case study of her son Paul, Bissex (1980a) offers non-statistical insights into the complex relationship between reading and writing processes, which she considers to be multileveled rather than direct:

Perhaps the broadest relationship between his early development in reading and that in writing is their common basis in metalinguistic functioning. Paul's invented spellings were one expression of metalinguistic awareness; to spell inventively a child must think about, analyze, and isolate the sounds of his language. Paul's knowledge of word boundaries was expressed graphically by dots or spaces as well as recognized in reading. Understanding what reading involves means understanding the often arbitrary, conventional relations between the patterns of spoken and written language. This requires a higher level of consciousness about language than the recognition of sight words or spelling by rote.

(p. 193)

From the beginning Paul's writing was influenced by his reading in many ways. He learned much of his spelling and some vocabulary through reading. He learned most of his punctuation and other writing conventions from reading. He learned forms and styles of written language from reading. Or rather, he learned by practicing in his writing things he had observed in reading; he learned to write by writing as well as by reading. (p. 196)

Children's Writing Concepts and Attitudes

Children's perceptions and attitudes, often very different from those of adults, nevertheless shape their learning. They are subject to change over time as children conduct their experiments and reorganize their experiences. The picture of how children perceive print and the processes of reading and writing is far from complete. The few findings reported here serve to sketch

but an outline of children's interpretations, important because of the implications they offer for children's learning.

O'Donnell (1979) reported a cross-cultural study of selected characteristics of writing presented to children aged three- to six- and a half-years-old. Lavine chose children representing widely different environments - New York, Yucatan, and Mexico - to explore the development of the prereading child's perceptions of writing. Lavine concluded that:

...at an early age prereading children perceive writing as a linear, varied string of non-iconic units; that learning occurs before children can read and without tutoring; ... differentiation ... is most accurate in cultures in which writing is salient in the environment; that developmental trends indicate increasing reliance on the units and decreasing reliance on linearity, multiplicity, and variety.... (p. 840)

This self-instruction that clarifies the meaningfulness of print for children, the graphic discrimination, fulfils an important role in beginning reading.

Kita (1979) interviewed twenty kindergarten children to explore their concepts about reading and writing and their perceptions of the purposes each fulfils. She found that children were able to specify the nature and purpose of writing much more clearly than for reading. They understood that written language served useful communicative functions, from conveying information in the form of a letter or directions, to expressing feelings and fantasy in story form. Writing, according to the opinion of seven children, helped with learning to read. Written samples, varying from simple letters to complete sentences, were used, in combination with a

picture, as a narrative vehicle. Children demonstrated knowledge of story form, theme, and logical sequence of events. Children had much more definite reasons for writing than reading, displaying an understanding of how written language operates and an implicit metalinguistic awareness.

Graves (1975) contrasted the perceptions of seven-year-old boys and girls about what constitutes a 'good writer'. Boys set the appearance of the finished product as a priority, while girls stressed the thoroughness of the process through which the 'good writer' goes.

Gunderson (1943) conducted an investigation into the response of one Grade Two class to free composition. She observed a change in the initial captioned picture stories of these children:

By the end of the three-month period during which this experiment was carried on, many scrap books contained stories with few or no illustrations, quite in contrast to the children's beginning efforts and testifying to their growing interest and power in writing. (p. 144)

Children were allowed to realize the power available to them through writing.

Graves (1982) reiterates the importance of letting young writers choose their own topics. He claims that by Grade Seven they are usually unable to choose topics and this is symptomatic of a serious problem: "They can't choose topics because they believe writing is an artificial act disconnected from their own lives " (p. 75).

In 1979, nine-year-olds responded to a series of statements

about themselves as writers for the Third National Writing Assessment carried out by the National Assessment of Educational Progress (1980). Attitude statements about the enjoyment, confidence, fear, avoidance of writing, and its utility and reception by an audience, elicited half to two-thirds positive replies. At least 25% however expressed negative attitudes and indications were that not only does enjoyment of writing decline with age, but more students feel that they are no good at writing, as they get older.

Bereiter (in press) expressed concern that school offers misdirection to young writers, fostering unhealthy attitudes. In the productions of serious and able writers one sees impressive evidence of intentional cognition at work, but for the most part the writing of school students shows little such evidence:

... Instead, school writing appears to be a kind of job carried out within the school context, which students gradually get better at doing, but the activity remains strictly context-bound and plays no part in their mental lives. (p. 24)

For able writers: "... meaningfulness does not depend on external circumstances but instead is something constructed by themselves within limits set by external circumstances " (p. 25). Interviews with students showed that those students that wrote well found meaning and purpose from the context of their mental lives rather than the context of school work. The poor or indifferent writers perceived meaning as dependent on the school context, defined by the nature of the assignment and the motivational conditions

surrounding that assignment. Their only purpose was to produce something to please the teacher. If one considers the development of mental life fostered through the vehicle of writing to be important, then there is a need for schools to make writing authentic for all students.

In contrasting the teacher attitudes of the British and American educational systems Squire and Applebee (1969) make a statement pertinent to the issue of children's attitudes toward writing:

Above all, American teachers need to reconsider the ways in which attitudes toward writing are cultivated. The notion that writing is difficult, that it brings no real satisfaction except the satisfaction of hard work, that it is a legitimate punishment for disorderly classroom conduct - such views are too frequently fostered in our schools. But the British teacher has demonstrated that writing can be fun. It can be virtually spontaneous. It can be as natural an activity as speech itself. Though with the spectre of college entrance composition tests awaiting high school pupils (a type of external examination unlike any for which British students prepare) Americans are not likely to abandon concern over the rather limited varieties of expository writing demanded by the colleges, but teachers can temper their approaches with greater awareness that through writing young people sensitize themselves to the world around them. They can recognize that depth of feeling and honesty of perception should be more highly prized than superficial correctness, that writing is less a set of behavioral skills than an expression of the expanding human personality. (p. 153)

In conclusion, many unanswered questions can be uncovered in every approach to children's writing considered thus far. Viewed developmentally, what framework is appropriate - specification of a given number of distinct stages or delineation of a continuum? Is growth characterized by a step-by-step

progression or by the increasing expansion of fundamental language competencies? How do we categorize knowledge gathered about writing? The course of writing research seems to need theoretical direction.

What is the balance between consideration of process and product, form and function, the individual and contextual factors? From an evaluation standpoint, what knowledge should be gathered? Considering product alone, should syntactic, semantic, or holistic aspects receive special attention? What is the balance between quantitative and qualitative assessment?

To a large extent correlational studies have bypassed beginning writers, possibly, as suggested by Evans and Ollila (1980) because their limited experiences with literacy complicate the establishment of statistical relationships. The close reading/writing relationship demonstrated for higher grades is a challenge, inviting examination of the beginning writer and scrutiny of the new reader. Does a significant relationship exist between reading and writing at all, or is it just difficult to document? Are there alternative approaches possible, which operate if necessary, outside statistical guidelines?

The lack of writing research generally, makes it a justifiable endeavour. Ignorance about the beginning writer in school, in particular, invites further study.

CHAPTER III
DESIGN AND PROCEDURES

Introduction

The purpose of this study was to examine young children's creative writing. Criteria for the writing evaluation was selected to offer a comprehensive analysis of the written language of Grade One and Two students. Writing performance was also considered in conjunction with other variables. The relationships between writing and reading performance, an IQ measure, and writing attitudes were examined using correlation coefficients. Differences between girls and boys and between Grade One and Two pupils was investigated using the two-way analysis of variance. The collection of data, which extended over a two week period in May of 1982, involved all Grade One and Two children on Salt Spring Island, part of the Gulf Islands School District. Both individual and group testing, as well as individual interview methods, were employed to gather the data.

Creative writing samples were written as a class activity, under the supervision of the investigator, and evaluated using an instrument combining syntactic, semantic, and holistic measures compiled by the investigator. As a class, children completed the Gates-MacGinitie Reading Tests, Second Edition (MacGinitie, 1978), administered by a substitute teacher

employed by the school district. On an individual basis children responded orally to the Peabody Picture Vocabulary Test (Dunn, 1959) and to an attitudinal survey developed by the investigator.

The IQ and reading tests were scored according to directions in the manuals. Scoring procedures for the attitudinal survey responses were divided into two sections, one which was scored qualitatively by coding and another which received a quantitative weighting. Creative writing samples received a number of scores, according to the criteria chosen by the investigator. Data were then analyzed using the Pearson product-moment correlation coefficients and the two-way analysis of variance to determine the nature of the relationship between the four variables being considered, and to specify the existence of any statistically significant age and grade differences. A comparison of the overall performance of those children scoring in the top and bottom quartile in reading achievement was also considered.

The following sections of the study are presented in this chapter: 1) subjects, 2) procedures, 3) test selection, 4) criteria for the evaluation of creative writing, 5) organization of the data, and 6) the method of analysis.

Subjects

The total of 108 subjects included 54 Grade One and 54 Grade Two children belonging to six different classes from the two elementary schools on Salt Spring Island in the Gulf Islands School District (#64). Grade One pupils included 29 girls and

25 boys, while the Grade Two population consisted of 31 girls and 23 boys. The entire available population at these two grade levels was included in the study. Five children, for whom the overall evaluation was not considered suitable at the discretion of the individual teachers, were excluded from the study. These children were working significantly below their grade level.

Procedures

Data collection, completed in May of 1982, provided assessment of the children's writing ability, reading achievement, IQ, and general attitudes toward writing. The age, sex, and grade level of each child was recorded. Each child was assigned a number, so that in the data analysis neither the school, teacher, or child would be identified.

Creative writing samples were gathered through a class activity conducted by the investigator. An imaginary situation was presented to the children as a stimulus for writing the composition. By encountering "The Wishing Stone" in the forest, children were encouraged to embark on the adventure of being their favourite animal for one week (see Appendix A). They were given twenty-five minutes to develop this fantasy in written form and were invited to add a drawing if they wished. The scoring procedure for this sample of the children's written language are described in the section entitled "Criteria for the Evaluation of Creative Writing".

The Gates-MacGinitie Reading Tests, chosen to provide an

assessment of reading achievement, were administered by a substitute teacher working for the Gulf Islands School District, and who was well known to all the children involved in the study. For each class, testing was accomplished through two group sessions to test both vocabulary and comprehension subsections, requiring a total testing time of sixty-five minutes. For the forty-five vocabulary items, children were to mark the oval beside the word (noun or verb) best describing the picture. Similarly, for the forty questions in the comprehension section, children chose the best of four pictures depicting the accompanying sentence(s), question, or paragraph.

The Peabody Picture Vocabulary Test was used by the investigator as a measure of verbal intelligence. Its administration on a one-to-one basis, with the child indicating his or her response either orally or by pointing, seemed particularly appropriate for young primary children. This untimed individual test, administered in less than fifteen minutes, involved the investigator reading a stimulus word to which the child responded either by pointing to, saying the number of, or otherwise indicating which of four pictures best illustrated the word. Subjects were not rushed and were free to change an initial answer. The one hundred and fifty items were arranged in ascending order of difficulty and each subject responded only to those items between his 'basal' (eight consecutive correct responses) and his 'ceiling' (six errors in a group of eight consecutive responses). For different ages

appropriate starting points were suggested in the manual.

An attitudinal survey was conducted by the investigator with each child individually. Its intent was to explore the individual's theory of the writing process. Besides seeking the individual's perception of the general purpose for writing, it also sought to determine personal preferences, and describe the writer's self-concept. Each child responded orally to questions about what it is that good writers are able to do when they write, what individual strengths and weaknesses the child believes he or she possesses, the child's purposes for writing, preferred topics, a sense of audience etc. Children were given ample time to respond. Additional questions were sometimes posed to clarify the original question. The investigator was careful not to lead the child by wording a question in such a way as to prompt a certain reply. At the outset of the interview, it was stressed that there were no wrong or right answers to the questions. The child's responses were recorded in writing, usually in their complete spoken form, but occasionally paraphrased.

The twenty-four question attitudinal survey which the children received represented the third form, after two revisions. In a pilot study involving forty-eight Grade One children attending Ruth King Elementary School in the Sooke School District, changes to the first two forms of the survey were made. According to the initial responses of these children to a seventeen question form of the survey, slight word changes were made for clarification.

Later, pertinent questions were added, expanding the survey to obtain a more thorough assessment of individual perceptions. The purpose of the survey was to answer the question, "What meaning does writing in general and the act of writing in particular have for the child?" (see Appendix B).

In each class, every child was first assessed individually using the Peabody Picture Vocabulary Test. The second individual session with the investigator was for the completion of the attitudinal survey. Individual assessment took place in a number of locations as they became available - specifically the medical room, an unoccupied kindergarten classroom, the stock room, the library, the learning assistance room, a conference room, and a staffroom. Privacy was sought to allow the child a chance to concentrate on the questions being asked. Through the individual testing and interviewing done with each child in the two separate sessions, the investigator attempted to get to know the child and put him or her at ease. Subsequently the investigator led each class in the writing activity, for which each child produced a creative writing sample presumed to be representative of his or her ability as a writer.

Test Selection

The Gates-MacGinitie Reading Tests (Second Edition, 1978) is comprised of two subsections, both featuring multiple choice items. For the vocabulary test students located the word - noun or verb - which best named the picture. In the comprehension section

students located the drawing that best depicted the text. The selection of this test to measure reading achievement was a decision made by the school district staff rather than the investigator. Both the authors of the test and independent reviewers offer support for this choice.

To the extent that a test measures what it is intended to measure, in this case reading achievement, it is valid. Test validity was insured by the authors through a careful examination of sixteen commonly used reading series developed for the primary grades. The series were examined for: 1) vocabulary, 2) decoding skills, and 3) proportion of natural science, social science, humanities and narrative content in each text. The beginning readers' interests and knowledge were also taken into account. Understanding of the passages, written in standard English, was tested through the use of both literal and inferential questions. Only half of the number of items developed for a national tryout were retained, because they proved to be the most useful test items and of appropriate difficulty.

Alternate-forms and Kuder-Richardson Formula 20 reliability coefficients, computed for each test level, ranged from .92 to .94 for Vocabulary and Comprehension at the Grade One and Two levels. Total variation of K-R 20 coefficients was .90 to .95 for Vocabulary and from .88 to .94 for Comprehension, taking all the grades into consideration.

In The Seventh Mental Measurements Yearbook (Buros, 1972),

Van Roekel evaluated the 1964 version of the Gates-MacGinitie Reading Tests and summarized with these words:

The Gates-MacGinitie tests reflect a marked improvement over their predecessors. A number of the faults of the Gates tests appear to have been corrected. The inter-test correlations are low enough to permit a rough analysis of reading difficulties, especially if these tests are used as a diagnostic supplement to reading tests published as a part of achievement test batteries. Used alone, however, these tests probably function best as survey tests. (p. 1082)

In the same volume, Powell's review reinforced this perspective:

As compared with other general reading tests, the Gates-MacGinitie Reading Tests would provide usable data on achievement in comprehension, vocabulary, and speed. It would be of limited value if information about specific reading subskills were needed. (p. 1083)

Proposed as a general survey of reading achievement, both by its authors and critics, it is most useful when considered as such.

The Peabody Picture Vocabulary Test was designed by Dunn (1959) to measure hearing vocabulary. This vocabulary test is not meant to be a substitute for the full scale IQ scores. However, vocabulary was demonstrated to be the most valuable single test in the WISC and Stanford-Binet, correlating more highly with the full scale IQ scores than any other subtest (Dunn, 1965). Not meant to provide a comprehensive measure of intellectual functioning, it is aimed instead, through eliciting a short restricted sample of behaviour, at predicting school success by supplying a measure of verbal intelligence.

The author reported alternate-form reliability coefficients ranging from .67 to .84 with a median of .77. Correlations with

Stanford-Binet mental ages were in the area of the .70's and low .80's, with IQ correlations running lower. The correlations with the WISC IQs were in the high .70's to low .80's (Dunn, 1965). This simple and short test supplies one aspect of the complex phenomenon known as intelligence, and that is in the realm of verbal performance.

Piers, reviewing the PPVT for The Sixth Mental Measurement Yearbook (Buros, 1965), stated:

In any case, in this reviewer's opinion the PPVT is probably now the best of its kind. It seems to do at least as well as the Ammons FRPV, and has considerably more range than the Van Alstyne. It is too early to make comparisons with the Ammons Quick Test but it is almost certainly more discriminating at the lower levels. The plates and format are attractive and the test has a good manual, something still anticipated for the FRPV. A substantial list of references is already available and the test is stimulating current research. The author, according to personal communications, plans soon to revise the reliability and validity sections of the manual to pull together results of research that have accumulated since its publication. (p. 823)

About the PPVT, Spache (1976) reported:

The Peabody Picture Vocabulary Test shows reasonable validity, reliability, and relationship with reading success....In my reviews of other picture vocabulary tests such as the Full Range or the Quick Test, I recommended using the Peabody because of its greater similarity to the WISC and the Binet, its shorter testing time, and its greater discrimination, especially at lower age ranges....The PPVT has been found to give reasonable correlations with the Binet and the WISC, although there is a trend toward higher IQs with its use....The test offers the advantages of a verbal intelligence measure free from the depressing effects of the pupil's reading ability. (p. 94-95)

This test was recommended for its ability to discriminate at lower

age levels, its format, and its measurement of vocabulary, which is recognized as an important indicator of general intelligence.

Criteria for the Evaluation of Creative Writing

The evaluation of the creative writing sample included both objective 'counting' analyses and subjective rating scales. A total of sixteen measures were obtained for each composition. They included:

The Production Length

The length of the composition was the total number of words used in the body of the narrative, excluding the title if one was present.

The Total Number of Syllables in the Story

The syllabic count gave an indication of the frequency of multisyllabic words.

The Total Number of T-units

This measure was the total number of minimal terminable units, as defined by Hunt (1965). Each independent clause with all its subordinate clauses comprised a T-unit.

T-unit Length

This was the average length of the T-units in each composition, reported in number of words. It was calculated by dividing the production length by the number of T-units.

The Total Number of "Ands"

This category measured the frequency with which children used the conjunction "and". The count included its connective function

to join both T-units and words.

The Total Number of Other Connectives

The total number of connective elements joining T-units, other than the conjunction "and" were included in this category. The conjunctions "because", "but", and "or", and the adverbs "now", "so", "then", and "when", were the seven other connectives found in the compositions.

The Total Number of Ideas

A count was made of the total number of separate ideas or distinct thoughts generated by the child. All statements of an introductory or summarizing nature, which served to paraphrase the oral stimulus of the imaginary situation delivered by the investigator, were excluded from this count. In addition, repetitions of an original thought were also ignored. The number of ideas then, represented the total number of unique thoughts presented by the child narrating his or her adventures as an animal.

The Number of T-units per Sentence

For this count the total number of T-units in the story was divided by the number of sentences punctuated by the child with a capital and period. If no punctuation was present, the body of the composition was counted as one sentence.

The Proportion of Uncommon Words in Each Composition

All those words in the composition, other than those high frequency words comprising the Clarence R. Stone's Revision of the

Dale List of 769 Easy Words (Spache, 1972) were counted as uncommon or difficult words. The total number of uncommon words, which included any repetitions of these words, when divided by the total word count for the composition, yielded the proportion of uncommon words. This ratio was represented as a decimal to two places.

Teacher Rating

Using a simple three-point rating scale, teachers were asked to compare each child's written composition to his or her overall writing performance throughout the course of the year's work. The teacher made an intuitive judgment about whether or not this particular sample of the child's creative writing was representative of his or her writing ability. A score of one was awarded if the sample was below average for this child. Written work typical of the child scored two. An above average or outstanding written composition was given a score of three. A score of zero signified that no rating was done on the child's composition.

The Number of Different Uncommon Words

In this section every different word in the composition which did not belong to the Clarence R. Stone's Revision of the Dale List of 769 Easy Words (Spache, 1972) was counted once. Repetitions of a difficult or uncommon word were excluded from this total.

The Number of Sentences

This count represented only the number of sentences which the child was able to punctuate successfully. If no punctuation

was present in the composition, it received a sentence count of one.

The Ten Category Rating

Each composition was reviewed independently by two raters according to a list of ten categories. For each category a score of zero, one, or two was assigned. A score of zero meant that the dimension was absent from the composition, or received only minor representation; one was allocated to those compositions displaying that aspect to a limited extent; two was received for an effective demonstration of the dimension being considered. The potential score range, representing each composition's total score on all ten categories, was zero to twenty. The ten categories considered included:

Development. This refers to the plot. To what extent is a plot line evident? The structure of the plot, the elaboration of a related series of events, was considered. Did the animal behave purposefully or was the composition aimless, rambling or vague? The absence of any plot received a mark of zero; a few related events scored one; a well-formed plot line was awarded a score of two.

Vocabulary. The child's choice and use of words to express particular thoughts or ideas was considered. Outstanding were unique or unusual word choices instrumental in communicating the child's ideas effectively and economically.

Flavour. This category was one of overall impression about

how well the child had communicated his or her ideas and engaged the reader. Implicit in this section is the child's awareness of audience that aids the reader's understanding and appreciation of the story.

Central Figure. This characterization of the animal was dependent on how thoroughly the child was able to portray him. For a score of two the child developed a believable central figure. He or she had gone beyond merely naming the animal to allowing it to be seen in its natural habitat, performing typical actions, ultimately to the point of creating an animal which seemed real.

Background and Details. This was the setting, the appeal to the senses. In some cases it was nonexistent (score of zero), or vivid only at times, with an inclusion of detail which created an insufficient framework or backdrop for the reader (score of one). If it was well-detailed for the reader it could almost be seen and certainly added to the character's credibility (score of two).

Sequence. The arrangement of ideas was considered in this section. Events that were jumbled received a score of zero, while when the order of events was very clear, two was awarded. A reasonable degree of clarity earned a score of one. Here story events were not always placed clearly in chronological order.

Emotional Quality. This category was defined as the extent to which the child was able to engage the reader in a personal reaction to the narrative. If the child's narrative was capable of eliciting an emotional response from the reader, the score for

this category was reflective of the strength of the response.

Structure. The shape and coherence of the child's writing was evaluated in terms of the form evident in sentences and paragraphs. How effectively did the child organize the body of the composition according to the conventions of form? Did sentence patterns vary?

Point of View. Was the child able to assume the role of 'I' as the chosen animal for the duration of the narrative? A score of two was awarded to those compositions in which the child successfully maintained the perspective of the animal throughout the narrative; zero represented a complete failure to assume that viewpoint; a score of one was allocated to those able, tentatively but incompletely, to become the animal about which they chose to write.

Ending. The composition which was brought to closure, which had a sense of completion, received a score of two. The composition which broke off abruptly, which gave the impression that the child had just quit writing scored zero. When it seemed that the composition ended somewhat gracefully, but that more needed to be said, a score of one was awarded. Generally, a score of two was earned for the effective portrayal of the quality; one was awarded if the quality found a degree of representation; zero denoted the absence of the quality.

Quality

The quality rating, a holistic judgment, again on the part of two independent raters, was based on a five-point scale adapted

from the seven level rating of McCaig (1981). It served to provide a means of focused holistic scoring (Greenhalgh & Townsend, 1981) in that the total piece of writing was considered, but according to a pre-defined criterion-referenced procedure, rather than a general impression. In assessing the development of the child's ability to communicate his meaning through written language, there was an attempt to set aside consideration of the correctness of spelling, punctuation, and capitalization. The five point scoring guide is described in ascending order.

One. Less than three complete thoughts which can be easily understood, and which are relevant to the topic are present in the composition.

Two. Some complete thoughts are organized and expressed in writing but there is a tendency for repetitious 'lists of sentences' to be present in the composition. Not all passages may be readily understood.

Three. Related ideas are expressed about a topic in such a way that each idea says something about the topic or describes what happens next. A sense of completeness about the topic is however lacking.

Four. A complete series of ideas about a topic can be readily understood. There is a tendency to express ideas loosely in basic sentence patterns.

Five. The completed series of ideas about a topic shows insight, creativity, some complicated sentence patterns, and a

relative density of ideas.

Multiple scoring was intended to provide a balance between syntactic and semantic elements in the analysis of each creative writing sample.

Organization of the Data

The general organization of the data was dependent on the quantitative or qualitative methods of scoring of the various tests. The qualitative ratings for the creative writing sample and the attitudinal survey were translated into interval scale scoring to facilitate comparison with other test measures.

The Gates-MacGinitie Reading Tests and the Peabody Picture Vocabulary Test were designed for a quantitative scoring procedure. For the former, the number of correct responses for each of the subtests - Vocabulary and Comprehension - provided a score for that section, which combined to offer a total score. From each of these three raw scores five derived scores were obtained: the stanine, T-score, percentile rank, grade equivalent, and extended scale score. Objective scoring was also possible with the Peabody Picture Vocabulary Test through the subtraction of the total number of incorrect responses from the ceiling score. From this raw score three derived scores were calculated - intelligence quotient (IQ), percentile rank, and mental age (expressed in years and months).

For the creative writing sample both quantitative and qualitative scoring techniques were used, as described above.

Qualitative assessment consisted of the teacher's rating, the ten category rating and the quality rating, which were all scaled quantitatively. All other measures were of a quantitative nature.

For the attitudinal survey two types of scoring procedures were developed. For the majority of questions, responses were categorized according to a coding system; here numbers were used to identify a certain specific response, without that response being assigned a weighted value. Numerical significance was nominal only, allowing construction of frequency histograms to represent the pattern of response made by all the children. For five of the questions a scoring system was devised to weight the answers such that a more complete and mature response received a higher score. Ordinal data were thus obtained by examining the broadness of the child's thinking, or the degree of sophistication exhibited about the concept in question. The interval scoring permitted use of these questions for correlational purposes.

For the question, "What kinds of things do people print and write down on paper?", responses were classified approximately according to the number of items the child included in his list. High scores were awarded for choices which reflected a more global awareness of purposes for writing. Scoring reflects the child's move beyond an orientation to writing in the immediate home and school contexts, to consider its uses in the broader contexts of his community and society in general.

Score	Number of Items	Sample Description
1	1	stories, poems, letters etc.
2	2	printing, words, sentences etc.
3	3	notes, invitations, lists etc.
4	4	newspapers, forms, cards etc.
5	5	signs, maps, magazines etc.
6	6	books, legislature, drawings etc.

All combinations of relevant responses were accepted. The sample description merely reflects the range of answers the children supplied. Some flexibility in scoring was allowed at the upper range e.g., five particularly well-chosen items might receive a score of six.

For the question "Why do you write?", the following categories were used:

Score	Response Description
0	I don't know; no response; vague or irrelevant responses
1	A single thought, often reflecting an immediate reaction, e.g., It's fun; I like it; to get good at it; because the teacher says to; it's something to do, etc.
2	Ideas expressing an appreciation of a broader context - a more personal sense of the utility of writing e.g., for communication, to further learning, to create a product e.g., to send a letter, to learn more words, to learn how to read, to make stories that can be read, to remember.

The answers to the question "What is a story?" were divided

into the following categories:

Score	Response Description
0	I don't know; no response; vague or irrelevant responses
1	An indication of external features e.g., something that is written down, sentences, words etc.; it's long, it has pictures, it can be read.
2	A sense of the purpose of a story, that it is something worthy of expression - it's something that you tell about; the topic could be real or imaginary etc.

For the inquiry "What is reading?" responses were categorized as follows:

Score	Response Description
0	I don't know; no response; vague or irrelevant responses
1	The child focused on one aspect of the process. External features or decoding behaviour was described e.g., looking at words, sentences, pages; sounding out words etc.
2	An attempt was made here to summarize the total reading process. The concept of comprehension was indicated e.g., thinking was involved, concentration, making a picture in your head, putting words together to turn into a story, etc.

For the question "What makes a story good?" the following guidelines were used to determine the scoring:

Score	Response Description
0	I don't know; no response; vague or irrelevant responses
1	One aspect of the story was considered, often relating

to its appearance e.g., it's about a specific topic; it avoids wars or bad things; it has a picture; it's neat; it sounds nice; thinking is involved; it's a matter of opinion etc.

- 2 In referring to a specific part of the story, the child indicated an awareness of the story as a whole e.g., adventure occurs; there are funny parts; a feeling is created - excitement, fear; there is an effective beginning or ending; the author has written other good books, etc.

Generally, for the above four questions, a score of zero was indicative of a failure to respond; one meant a relevant but often superficial or incomplete answer; a score of two indicated a deeper or more thorough understanding of the concept in question and/or the ability to state that awareness clearly. Addition of the scores for these five questions produced a total ranging from zero to fourteen.

Method of Analysis

Pearson product-moment correlation coefficients were used to relate writing scores, reading achievement scores, IQ scores, and the five weighted responses from the attitudinal survey. Statistically significant relationships were determined by relating each individual score to every other measure obtained for that child.

The two-way analysis of variance was employed to examine the main effects (sex and grade level) and their interaction for these

variables - writing ability, reading achievement, IQ, and attitude toward writing.

The top and bottom quartile performances, as defined by reading achievement, were considered in terms of children's overall standing in all measures taken, to explore consistency in achievement patterns.

Summary

The purpose of this chapter was to describe the design and procedures of this study. Grade One and Two children attending the two elementary schools on Salt Spring Island comprised the population used in this study.

All the children were individually tested and interviewed using both a published IQ test and an interview instrument developed by the investigator. In a group situation children received a published reading test, and a stimulus for creative writing.

The main analysis of the data from these tests was Pearson product-moment correlation coefficients. The data was also subjected to a two-way analysis of variance to determine significant sex and grade differences and a comparison of the top and bottom quartile of the children, as defined by reading achievement scores. The results of this investigation will be presented in Chapter IV.

CHAPTER IV

DATA ANALYSIS AND RESULTS

The description of the data analysis and the discussion of the findings are intended to investigate the following questions:

1. What kind of relationship exists between measures of children's writing ability as compared to their reading ability?
2. What is the nature of the relationship between children's writing ability and an evaluation of verbal intelligence?
3. Is there a statistically significant correlation between the assessment of a child's writing ability and his or her attitude toward writing?
4. Are statistically significant sex differences identifiable when examining these variables?
5. Are there statistically significant age differences (in terms of grade placement) to be found when considering these variables?
6. What is an effective way to evaluate young children's writing for the purpose of understanding the child as writer? Can a measure be found which is a particularly sensitive and representative index of the writing skill typical at this age level?
7. What are the best identifiers of the writing ability of young

children?

The basic purpose of this study is to examine the question - Do statistically significant correlations exist between the written expression of young children and their reading achievement, verbal intelligence, and writing attitudes? Also, can significant age and sex differences be identified?

Organization into the following sections will facilitate the reporting of the findings:

1. The statistical analyses of the data including correlations, the two-way analysis of variance for each variable, and comparison of the top and bottom quartile as defined by reading achievement. Test results will be reported and related to the pertinent hypothesis.
2. The analysis of children's responses to the attitudinal survey questions.

For the purposes of this study, $p < .05$ was considered an acceptable level of significance. Probability values have been reported to afford the reader a chance to evaluate significance. Where it is appropriate the findings will be related to the various studies surveyed in the literature review.

Statistical Analyses

Hypothesis 1 Restated

There will be no significant difference between girls and boys in writing ability as measured by an assessment of a creative writing sample.

A two-way analysis of variance was computed for each of the sixteen measures used to evaluate the children's creative writing, as outlined above. Only three syntactic indices yielded F values demonstrating a significant difference between girls and boys. They were: 1) the production length ($p = .024$); 2) total number of syllables ($p = .016$); and 3) number of uncommon words ($p = .027$).

Inspection of the difference between the means in each case showed that girls produced the greater number in each category. The tendency for girls to write at greater length than boys, especially in formal settings, is consistent with the findings of Graves (1975). The number of analyses producing significant sex differences is neither sufficiently large nor representative to warrant rejection of this hypothesis. Since at least half of the measures, and a crosssection of analysis types, did not demonstrate significant differences between girls and boys this hypothesis is considered tenable. The creative writing done by the children in this study showed that there was no significant difference between the writing ability of girls and boys. Woodfin (1968) and Sheldon (1971) found the sex variable to be least reliable in the prediction of writing ability. Baden (1981) found no sex difference for compositions skills. This study confirmed these findings.

Hypothesis 2 Restated

There will be no significant difference between girls and boys in reading achievement as measured by the Gates-MacGinitie

Reading Tests.

Significant sex differences were demonstrated by the two-way analysis of variance for the total test score, the vocabulary subtest, and the comprehension subtest (Table 1). This hypothesis was therefore found to be untenable. Significant mean differences between girls and boys were found to exist in reading achievement as measured by the Gates-MacGinitie Reading Tests (Table 2). The girls demonstrated a higher level of achievement than the boys. The total extended scale score means averaged 429.52 for the girls and 404.22 for the boys.

Hypothesis 3 Restated

There will be no significant difference between girls and boys in the level of intelligence as measured by the Peabody Picture Vocabulary Test.

The two-way analysis of variance resulted in an F value which was not significant when comparing the IQ scores of girls and boys (Table 1). Therefore this hypothesis was found to be tenable.

Hypothesis 4 Restated

There will be no significant difference between girls and boys in attitudes toward reading and writing, as measured by an informal survey.

This hypothesis was found to be tenable, as indicated by the two-way analysis of variance results that compared the children's responses to the survey questions. As elaborated in the section in Chapter III entitled Organization of the Data, children were

Table 1

Summary of the Two-Way Analysis of Variance of the Reading
and Intelligence Tests by Sex and Grade

Source of Variance						
TEST	Sex X Grade Interaction		Sex Effect		Grade Effect	
	F (1,74) p		F (1,74) p		F (1,74) p	
<u>Gates-MacGinitie Reading Tests</u>						
Vocabulary	2.88	.094	5.30	.024	43.43	.000001
Comprehension	1.12	.292	10.76	.002	44.25	.000002
TOTAL	2.66	.107	9.31	.003	47.69	.000002
	F (1,104) p		F (1,104) p		F (1,104) p	
<u>Peabody Picture Vocabulary Test</u>						
IQ Scores	0.18	.676	1.23	.270	8.79	.004

Table 2

Means and Standard Deviations for Reading and Intelligence Tests

Gates-MacGinitie Reading Tests (Extended Scale Scores)

	Grade One		Grade Two	
	Female	Male	Female	Male
Vocabulary Subtest				
Mean	388.06	388.80	457.00	427.59
Standard Deviation	43.29	38.21	27.54	39.98
Comprehension Subtest				
Mean	355.53	330.60	463.79	407.50
Standard Deviation	59.93	60.05	48.67	73.99
TOTAL				
Mean	378.29	371.10	459.55	419.27
Standard Deviation	39.21	38.58	34.72	51.52
Number of Subjects	17	10	29	22

Peabody Picture Vocabulary Test (IQ Scores)

Mean	107.69	103.44	114.87	112.96
Standard Deviation	13.91	9.99	15.99	16.61
Number of Subjects	29	25	31	23

asked: 1) What kinds of things do people print and write down on paper?, 2) Why do you write?, 3) What is a story?, 4) What is reading?, and 5) What makes a story good? No significant differences could be discerned which separated girls and boys for any of the answers. Three of the F values did not exceed 1.

While Graves (1975) found very distinct differences in the concepts boys and girls had of the good writer, this interview situation did not reinforce that strong distinction in attitudes. Using different questions it was found that girls and boys gave comparable answers, demonstrating that there was no significant sex differences in attitudes toward writing, as measured by this survey.

The first four hypotheses have been concerned with comparing the performances of girls and boys. Statistically significant sex differences are not identifiable in an examination of the writing ability, IQ, and attitudes of these children. Only in the area of reading achievement were significant differences found.

Hypothesis 5 Restated

There will be no significant difference between Grade One and Grade Two children in writing ability, as measured by an assessment of a creative writing sample.

A two-way analysis of variance was computed for each of the sixteen measures used to evaluate the children's creative writing, as outlined above. Reference to Table 3 shows that twelve measures demonstrate a significant difference between the grades. Two of these measures were at the .05 level, while there were

Table 3

Summary of the Two-Way Analysis of Variance by Sex and
Grade on the Evaluation of Creative Writing

CREATIVE WRITING MEASURE	Source of Variance					
	Sex X Grade Interaction		Sex Effect		Grade Effect	
	F (1,104)	p	F (1,104)	p	F (1,104)	p
Production length	1.40	.239	5.25	.024	19.42	.000028
Total number of syllables	1.30	.257	5.96	.016	18.56	.000039
Total number of T-units	2.04	.156	2.00	.161	9.25	.003
T-unit length	6.10	.015	0.30	.587	4.46	.037
Total number of "ands"	0.22	.642	2.16	.145	6.01	.016
Total number of other connectives	0.00	.971	0.91	.344	1.33	.251
Total number of ideas	1.45	.232	0.01	.943	9.98	.002
Number of T-units per sentence	0.11	.741	0.01	.930	0.25	.616
Proportion of uncommon words	0.81	.370	0.00	.979	2.41	.123
Teacher rating	0.03	.857	0.03	.857	0.92	.341
Number of different uncommon words	2.08	.152	5.01	.027	17.25	.000070
Number of sentences	3.61	.060	3.63	.059	17.88	.000054
Ten category rating	0.16	.691	2.25	.136	16.89	.000083
Quality rating	0.61	.435	0.82	.368	22.01	.000012
Ten category rating	0.08	.774	1.83	.180	17.55	.000063
Quality rating	0.61	.435	0.82	.368	22.01	.000012

two measures at $p < .01$, and eight measures at $p < .001$. A total of twelve measures, representing syntactic, semantic, and holistic assessment, pinpoint grade level differences that are significant in a statistical sense.

Inspection of the means for these 75% of the assessment criteria (Table 4) showed that generally Grade Two children had higher scores than Grade One children. They wrote longer compositions, longer T-units, included more uncommon words, and expressed more ideas in a more well-developed story form. These findings are consistent with those of several researchers. Bear (1939) found noticeable differences between first and second grade written language, specifically in terms of sentence structure. Hunt (1965) and O'Donnell, Griffin, and Norris (1967) established that the average T-unit length was a superior index of grade level. This finding is confirmed here in the significant difference in T-unit length between the two grades. Also repeated are the quantitative and qualitative findings of King and Rentel (1981), who showed that Grade One and Two children gradually write longer compositions, representing increasingly more 'well-formed' stories.

Hypothesis 6 Restated

There will be no significant difference between Grade One and Grade Two children in reading achievement as measured by the Gates-MacGinitie Reading Tests.

When comparing the two grades a two-way analysis of variance produced significant F values for all three measures of the

Table 4

Means and Standard Deviations for the Evaluation of Creative Writing

CREATIVE WRITING MEASURE	Grade One			Grade Two	
	Female	Male		Female	Male
Production length	48.10	40.96	Mean	82.87	60.57
	31.89	26.54	SD	41.96	26.34
Total number of syllables	56.52	46.72	Mean	96.13	69.26
	36.87	29.86	SD	50.22	30.06
Total number of T-units	7.28	7.28	Mean	11.77	8.78
	5.08	5.01	SD	6.70	4.11
T-unit length	6.49	5.40	Mean	6.45	7.17
	1.80	1.77	SD	2.32	1.37
Total number of "ands"	2.55	1.96	Mean	4.23	3.09
	2.90	2.72	SD	3.69	2.48
Total number of other connectives	1.28	0.92	Mean	1.68	1.35
	1.58	1.85	SD	2.12	1.82
Total number of ideas	3.69	4.84	Mean	7.52	6.48
	2.36	4.62	SD	6.18	4.64
Number of T-units per sentence	4.65	4.42	Mean	3.88	4.29
	5.52	3.90	SD	5.45	4.64
Proportion of uncommon words	0.12	0.13	Mean	0.15	0.14
	0.07	0.07	SD	0.04	0.06
Teacher rating	2.00	2.00	Mean	1.87	1.91
	0.60	0.41	SD	0.62	0.73

Table 4 (continued)

Means and Standard Deviations for the Evaluation of Creative Writing

CREATIVE WRITING MEASURE	Grade One			Grade Two	
	Female	Male		Female	Male
Number of different uncommon words	5.72	4.96	Mean	10.84	7.35
	3.93	3.78	SD	6.65	4.13
Number of sentences	2.41	2.40	Mean	6.06	3.70
	1.94	2.63	SD	4.58	2.72
Ten category rating	4.69	3.72	Mean	8.58	6.91
	4.12	4.23	SD	4.75	4.99
Quality rating	2.10	2.08	Mean	3.10	2.78
	0.98	1.15	SD	0.87	0.80
Ten category rating	4.79	3.88	Mean	8.58	7.17
	4.14	4.17	SD	4.81	4.50
Quality rating	2.10	2.08	Mean	3.10	2.78
	0.98	1.15	SD	0.87	0.80
Number of Subjects	29	25		31	23

Gates-MacGinitie Reading Tests at the $p < .001$ level of significance (Table 1). Therefore, this hypothesis was rejected. Comparison of the means showed that Grade Two children have reached a higher level of reading achievement.

Hypothesis 7 Restated

There will be no significant difference between Grade One and Grade Two children in the level of intelligence as measured by the Peabody Picture Vocabulary Test.

This hypothesis was found to be untenable. The two-way analysis of variance produced an F value of 8.79, significant at $p < .01$. The Grade Two mean IQ of 114.056 compared with a Grade One mean of 105.722. The older Grade Two children scored significantly higher than the younger Grade One children on a measure of verbal intelligence.

Hypothesis 8 Restated

There will be no significant difference between Grade One and Grade Two children in attitudes toward reading and writing, as measured by an informal survey.

Answers the children gave to the five survey questions to assess their attitudes, as enumerated in the Chapter III section entitled Organization of the Data, showed significant differences (at $p < .01$) between the grades for only two of the questions (Table 5). To the question, "What kinds of things do people print and write down on paper?", Grade Two children responded with more items than the Grade One children. To the inquiry, "What is

Table 5

Summary of the Two-Way Analysis of Variance by Sex and Grade
on the Responses to the Attitudinal Survey

QUESTION	Source of Variance					
	Sex X Grade Interaction		Sex Effect		Grade Effect	
	F(1,104)	p	F(1,104)	p	F(1,104)	p
1. What kinds of things do people print and write down on paper?	0.01	.917	0.69	.409	8.11	.005
2. Why do you write?	1.23	.269	0.00	.952	0.42	.517
3. What is a story?	2.18	.143	2.45	.120	0.36	.550
4. What is reading?	0.45	.502	0.01	.936	8.81	.004
5. What makes a story good?	0.11	.743	0.13	.715	3.11	.081
6. TOTAL	0.71	.402	0.20	.654	0.39	.532

reading?", Grade One children had a higher mean than the Grade Twos (Table 6). On the basis of the evidence presented by the responses to the interview questions, this hypothesis is considered to be tenable. The overall difference between the grades in attitudes toward writing, as indicated by the particular questions included in this survey, is not significant in nature.

Comparison of Grade One and Two children showed that there are statistically significant differences for three of the four variables considered. While variations in attitude did not prove to be sufficiently wide between the grades to reach significance, writing ability, reading achievement, and IQ scores were all significantly higher for the Grade Two children as compared to the performance of those in Grade One.

Hypothesis 9 Restated

For Grade One children there will be no significant correlation between writing ability as measured by an assessment of a creative writing sample and reading achievement as measured by the Gates-MacGinitie Reading Tests.

Only 14% of those correlations linking the sixteen writing measures, as outlined above, and the reading measures, subtests of the Gates-MacGinitie Reading Tests, were statistically significant at the $p < .05$ level of significance. The vocabulary subtest and the total score for reading achievement were found to be related to the number of sentences the child had produced and the ten category ratings. The total reading score was also found to

Table 6

Means and Standard Deviations for the Responses to the
Attitudinal Survey

QUESTION	Grade One			Grade Two	
	Female	Male		Female	Male
1. What kinds of things do people print and write on paper?	2.31	2.52	Mean	2.97	3.13
	1.00	1.26	SD	1.20	1.18
2. Why do you write?	1.41	1.28	Mean	1.23	1.35
	0.63	0.61	SD	0.62	0.49
3. What is a story?	1.07	0.64	Mean	0.97	0.96
	0.65	0.76	SD	0.75	0.77
4. What is reading?	1.10	1.00	Mean	0.61	0.70
	0.72	0.82	SD	0.62	0.70
5. What makes a story good?	1.14	0.96	Mean	1.13	0.87
	0.64	0.61	SD	0.67	0.63
6. TOTAL	7.03	6.40	Mean	6.90	7.00
	2.06	2.45	SD	2.36	2.04
Number of Subjects	29	25		31	23

be correlated with the number of uncommon words the child included in his or her composition. The reading comprehension score was not related in a statistically significant way to any of the writing measures. This hypothesis was therefore found to be tenable. For these Grade One children the number of statistically significant correlations was not substantial enough to identify a relationship between writing ability and reading achievement. This finding fails to support a number of conclusions in the research literature that strongly link measures of reading and writing (Baden, 1981; Evanechko, Ollila & Armstrong, 1974; Evans & Ollila, 1980; Loban, 1963; Sheldon, 1971; Wallen & Stevenson, 1960; Woodfin, 1968; Yamamoto, 1963). However, most of these studies dealt with older children.

Hypothesis 10 Restated

For Grade One children there will be no significant correlation between writing ability as measured by an assessment of a creative writing sample and IQ as measured by the Peabody Picture Vocabulary Test.

None of the Pearson product-moment correlation coefficients linking the creative writing assessment measures, as outlined above, with IQ were significant. Therefore, this hypothesis was found to be tenable. No relationship between writing ability and IQ was demonstrated for these Grade One children. Groff's (1978) assertion that oral and written language do not share a strong positive relationship is pertinent to this finding. The Peabody

Picture Vocabulary Test is a measure of verbal intelligence, or proficiency with oral language. Groff suggests the reason that oral and written language remain separate is that, for beginning writers, oral fluency is simply not relevant to the overwhelming problems that the mechanics of writing and an appreciation of the abstractness of written language pose to the beginner.

Hypothesis 11 Restated

For Grade One children there will be no significant correlation between writing ability as measured by an assessment of a creative writing sample and attitudes toward reading and writing, as measured by an informal survey.

Results of the informal attitudinal survey, whose format is explained earlier, were linked to the sixteen creative writing measures, as outlined above, by 36% of the Pearson product-moment correlation coefficients, half at each level of significance. Consideration of those creative writing measures to which the TOTAL survey score was linked effectively summarizes, in brief, the correlational pattern. The overall response to the interview questions was related, at $p < .01$, to the child's production length, syllabic count, number of uncommon words, and both the ten category and quality ratings. The number of T-units, the number of ideas and the number of sentences was linked to the general survey response at the $p < .05$ significance level. Although every question in the survey could not be related to measures of creative writing, sufficient correlation was found to warrant

rejection of this null hypothesis. Given the diversity of writing measurement and the variety represented by the limited number of questions posed, it would seem that this smaller percentage of overlap would constitute a sufficient indicator of an attitude-ability relationship in the area of writing.

Significant correlation coefficients did not adequately demonstrate a relationship between writing ability and measures of reading achievement and IQ for children in Grade One. A stronger link was indicated for these children between their writing ability and attitudes toward reading and writing.

Hypothesis 12 Restated

For Grade Two children there will be no significant correlation between writing ability as measured by an assessment of a creative writing sample and reading achievement as measured by the Gates-MacGinitie Reading Tests.

Writing measures, as outlined above, were significantly linked to reading scores on the subtests of the Gates-MacGinitie Reading Tests by 57% of the Pearson r 's. Twenty-two percent of these correlations were significant at $p < .05$, while 35% were significant at $p < .01$. Table 7 presents a summary of significant correlation coefficients and indicates the correlational patterns. As for the Grade One children, reading measures were linked to the number of sentences produced, the number of uncommon words included, and the ten category ratings. In addition production length, syllabic count, the number of T-units, and the quality

Table 7

Summary of Pearson Product-Moment Correlation Coefficients for
Writing and Reading Measures for Grade Two

WRITING MEASURE	READING MEASURE		TOTAL
	Vocabulary	Comprehension	
Production length	.457**	.315*	.407**
Total number of syllables	.456**	.331*	.414**
Total number of T-units	.396**	.252	.344*
Number of uncommon words	.414**	.390**	.415**
Number of sentences	.576**	.416**	.520**
Ten category rating	.456**	.343*	.426**
Quality rating	.400**	.330*	.389**
Ten category rating	.437**	.338*	.414**
Quality rating	.400**	.330*	.389**

* $p < .05$

** $p < .01$

ratings also identified the writing-reading relationship. For Grade Two children more writing measures - including syntactic, semantic, and holistic assessment types - identified the relationship with reading achievement so that this hypothesis was rejected. A significant correlation between writing ability and reading achievement was demonstrated for second grade children. This parallels the close tie identified by many researchers between reading and writing abilities (Baden, 1981; Evanechko, Ollila & Armstrong, 1974; Evans & Ollila, 1980; Loban, 1963; Sheldon, 1971; Wallen & Stevenson, 1960; Woodfin, 1968).

Hypothesis 13 Restated

For Grade Two children there will be no significant correlation between writing ability as measured by an assessment of a creative writing sample and IQ as measured by the Peabody Picture Vocabulary Test.

Half of the Pearson product-moment correlation coefficients indicated a significant relationship between writing ability, as assessed by the sixteen creative writing measures outlined earlier and the IQ scores of the second grade children. At the $p < .01$ level of significance IQ scores were related to the number of T-units per sentence, the number of uncommon words, the number of sentences, and all ten category and quality ratings; at $p < .05$, IQ scores related to the number of other connectives. Sufficient statistical evidence is available to warrant rejection of this hypothesis. For second grade children, substantial correlation

was shown to exist, demonstrating a relationship between writing ability and IQ scores. Wallen and Stevenson (1960) linked the writing creativity score of fifth graders, similar to the ten category and quality ratings employed here, to IQ scores. These findings are also consistent with those of Yamamoto (1963), exhibiting a similar correlational strength between creative writing and IQ. Baden (1981) also used the PPVT to relate pre-kindergarten verbal ability to grade three writing performance at the .01 level of significance. The link between writing and IQ is well established, but is not as strong as is the relationship between writing and reading.

Hypothesis 14 Restated

For Grade Two children there will be no significant correlation between writing ability as measured by an assessment of a creative writing sample and attitudes toward reading and writing, as measured by an informal survey.

Attitudes, as gauged by the informal attitudinal survey outlined earlier, and writing ability, as defined by the sixteen creative writing measures explained above, were linked by only 6% of the Pearson r 's. This is insufficient to support the existence of a relationship between these two variables. On the basis of statistical evidence this hypothesis was found to be tenable, as no significant correlation was indicated for Grade Two children between writing ability and attitude.

For these Grade Two children writing was significantly linked

to reading, and to a lesser extent IQ. Loban (1963) found the strength of the reading/writing relationship to be more apparent in the intermediate grades when considering children longitudinally. Evans and Ollila (1981) confirmed this tendency for the primary grades, noting that as the child's age increases, the relationship between reading and writing becomes more evident. In this study this same pattern has been reflected by the differences between the Grade One and Grade Two performances in writing and reading. That a relationship exists between writing and reading abilities has been demonstrated much more clearly by the Grade Two children.

Quartile Comparison

A comparison of the top and bottom quartile, as defined by reading achievement, serves to pinpoint significant differences in children's performances. T-tests demonstrated that, at the $p < .05$ level, significant creative writing measures included the production length, total syllabic count, the number of T-units, the T-units per sentence and the quality ratings. At $p < .01$, the number of different uncommon words, the number of sentences, and the ten category ratings reached significance. Two significant differences also separated these two groups in terms of the survey responses. At $p < .05$, readers performing in the top quartile gave a more complete response to the question, "What is a story?". At $p < .001$ superior answers were given to the question, "What makes a story good?" by the better readers.

Survey Responses

In this study, as part of the interview session probing the child's attitudes toward writing and self as a writer, the subjects were asked the following five questions: 1) What kinds of things do people print and write down on paper?, 2) Why do you write?, 3) What is a story?, 4) What is reading?, and 5) What makes a story good? The children's responses were analyzed by assigning a weighted score to each answer, and compiling a total score, to facilitate comparison with the other measures collected in the course of the study.

What kinds of things do people print and write down on paper?

Ninety-three percent of the children responded by stating from one to four items. Most indicated three items (37%), 20% each gave one or two items, while 16% supplied four items. The majority of responses came from the sample description list indicated in Chapter III. Less frequent responses showed children's awareness, at least collectively, of a variety of purposes for writing. More atypical responses included timetables, petty cash, love letters, essays, tests, bills, MSA forms, recipes, report cards, house designs, legislation, rules, calendars, songs, puzzles, codes, and warnings.

Why do you write?

While 6% of the children did not know why they wrote, 56% gave a response which scored one, e.g., It's fun; the teacher says to; to get good at it. Thirty-eight percent did however earn a

score of two by indicating the purpose or meaning of their written language.

What is a story?

Eighty percent of the children either did not know (32%) or provided a partial response (48%) which tended to characterize one aspect of the story. Only 20% were able to define a story so as to give some sense of it as a whole.

What is reading?

Eighty percent of the children either did not know (35%) or responded by focussing on one aspect of the reading process (45%). Answers which reflected the total reading process in some way came from 20% of the children.

What makes a story good?

While 19% of the children could not say what it is that makes a story good, 22% chose an important and definite story component which they felt was a vital ingredient. The majority (59%) considered some general feature e.g., appearance, absence of bad things etc. in their definition of a good story.

Summary of Findings

A positive relationship between writing ability and reading achievement was identified for Grade Two, but not for Grade One children. The failure to pinpoint this relationship for first graders may be due to their lack of experience with reading and writing and/or the assessment techniques used.

As with reading, verbal intelligence was linked to writing

ability for Grade Two children only, and demonstrated to a lesser extent than the reading/writing relationship. This is consistent with research findings generally.

The relationship between writing ability and attitude was less definite, as indicated by the limited number of significant correlation coefficients found only for Grade One children.

Significant sex differences were identifiable only in reading achievement, with the girls' performance ahead of the boys'. The statistically significant age differences to be found when considering these variables were much more obvious. For writing ability, reading achievement, and IQ, Grade Two children had higher scores than Grade One children. Age, much more than sex, is a variable able to predict ability differences.

No single writing measure stood out as a particularly sensitive or representative index of young children's writing ability. Some were particularly instrumental in demonstrating differences and relationships. The production length, total number of syllables, and number of uncommon words identified both sex and age differences and had highest significance in linking Grade One attitudes and writing ability. The number of sentences the child wrote and all ten category and quality ratings identified grade differences and the relationship of writing ability to both reading and IQ for Grade Twos and attitude for Grade Ones. The number of T-units demonstrated both grade differences and the Grade Two reading/writing relationship. The number of uncommon

words in Grade Two written compositions related both to their reading achievement and IQ.

The comparison of the top and bottom quartile, as separated by reading performance, served to reinforce the usefulness of these creative writing measures, which were outstanding in the identification of differences and relationships.

Age and sex differences and relationships between skills were dependent then, for illustration, upon a number of writing measures, representing all types of writing evaluation.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this investigation was to examine the relationship between writing and reading skills in first and second grade children. For this correlational study a sample of writing behaviour and a sample of reading behaviour were obtained from each child and compared. Of primary importance was the selection of measures with which to assess the written language of the children. Other variables which were taken into account in their relationship to writing ability were IQ and attitudes. Age and sex differences were also explored.

This chapter is divided into the following sections:

1) review of the background of the study, 2) summary of the design and analysis, 3) conclusions, 4) educational implications, and 6) suggestions for future research.

Review of the Background of the Study

The intensity of the research endeavour in beginning reading has not been balanced by an equally thorough investigation of factors involved in children's attempts to write. An examination of the literature immediately demonstrates the need for further research.

Many changes take place during the period in which children move from the first awareness that writing has significance in

their world to the intentional production of their own messages. Clay (1975) documented the five-year-old's systematic discovery of written conventions both through experimentation and the replacement of self-satisfaction in writing by an urge to communicate meaningfully with others. As children attempt to become fluent in written language, they painstakingly translate their oral language into writing. The results, their invented spelling systems, are uniform representations displaying linguistic competence (Chomsky, 1976). This sequence may suggest that writing should be the natural prelude to reading (Kita, 1979).

No matter how random they might appear to adults, DeFord (1980) found the spontaneous writings of very young children to be purposeful, seeking to represent meaning in a progressively more conventional way. Incentive comes for children with the realization of the power that their writing has to interest others. Harste and Burke (1980) emphasized the failure of distinct 'developmental stages' to identify properly the steady growth and flexibility of young children, who possess the same written language universals that are shared by everyone. They stress along with King (1978) the importance of contextual factors. King and Rentel (1979) charge that the acquisition of writing is a process that is ill-defined, with no theoretical framework existing to support the much-needed research.

Illumination of the writing process of children in school has been approached, primarily and indirectly, through the

examination of their written compositions. The gradual lengthening of stories and increasing sentence complexity found by Bear (1939) was demonstrated again by Hunt (1965) using the T-unit. T-unit length increased with grade level as children reduced and consolidated clauses, a phenomenon confirmed by O'Donnell, Griffin, and Norris (1967) in their description of increasing sentence-combining transformations in successive grades. The simple syntactic structure employed by beginning writers is paralleled by basic semantic constructions as well. Stahl (1974, 1977) showed that Grade Two children did not show much evidence of planning, selection, balance, or sequence in their compositions.

Graves (1973, 1975, 1979, 1980), in examining beginning writing, looked at process as well as product. He began by looking generally at the writing behaviours of boys and girls in different environments. Girls and boys preferred different topics, wrote at different lengths exhibiting different styles, and responded best to different writing atmospheres. Naturalistic observations permitted analysis of the writing process and characterization of 'reactive' and 'reflective' writer personalities. Interview sessions allowed exploration of the child's concept of the good writer. Case study investigations revealed that many variables contribute to every writing episode, a conclusion shared by Harste and Burke (1980), which raises the question again of the need for a guiding theoretical framework (King, 1978).

With intensive observations, prewriting, composing, and

revision behaviours began to emerge. The transition from the playful discovery of meaning to intentional communication for an audience became apparent.

King (1980, 1981) stressed that as children moved from speech to the ideational written language they were dependent on an internalized story schema for organization. The success of their storytelling and text production seemed influenced by the completeness of this internal reference.

Based on Britton's (1970) sequence of expressive to transactional writing, Bereiter (1980) proposed a provisional model to encompass not only what children do, but what they can do. Unified and epistemic writing go beyond the conventionalized form, which retains an awareness of audience, and yet becomes a tool, integral to thought, with which the writer can interact.

Summarizing assessment, one focus of writing evaluation has been syntactic complexity, centering on units like the sentence (Hunt, 1965; LaBrant, 1933; Loban, 1963). To that has been added morphemic complexity, designed to quantify sentence-combining transformations (Botel & Granowsky, 1972; Endicott, 1973; O'Donnell, Griffin & Norris, 1967). Compositions may also be assessed for the completeness of the presentation of their meaning, i.e., their semantic maturity (Glazer, 1971; McDonell & Osburn, 1980; Stahl, 1974). Syntax becomes just one consideration among such things as originality, characterization, sequence, ending, setting, and style. Holistic scoring offers a method, potentially capable of

encompassing all the writing variables in a judgment of overall quality; its efficacy at accomplishing this is disputed by some researchers (Grobe, 1981; Stewart & Grobe, 1979).

When considering the relationship between oral and written language skills, Hildreth (1954) would argue that oral fluency is a precursor to effective written expression, while Martin (1955), Harris (1977), and Groff (1978) would insist on the relative independence of these two language parameters. Five-year-olds illustrated this difference for Sulzby (1982) by distinguishing their conversational tone in storytelling from the more formal manner they used in story dictation. Writing has also been related, with a greater degree of statistical significance to reading, language, and arithmetic measures, rather than to IQ, social adjustment, creative thinking, sex, or socioeconomic status (Baden, 1981; Sheldon, 1971; Wallen & Stevenson, 1960; Woodfin, 1968; Yamamoto, 1963). The strong correlation between reading and writing becomes more apparent with older subjects (Evans & Ollila, 1980; Loban, 1963). While the reading/writing relationship may strengthen as children mature, the desire to write, the perception of its validity, and the concept of self as a capable writer decline for many children (Bereiter & Scardamalia, 1981; Graves, 1982; National Assessment of Educational Progress, 1980; Squire & Applebee, 1969).

Evident from examination of these studies is the paucity of research at the level of the primary child who is beginning to

read and write in school. Between the preschooler and the child in the intermediate grades, there is almost a total gap in the consideration of how the child, his related language skills, and the school environment interact.

Summary of the Design and Analysis

The intent of this study was to explore the following questions:

1. What is the nature of the relationship between children's writing and reading abilities?
2. How does writing ability relate to intelligence and writing attitudes?
3. Can sex and age differences be identified in looking at these four variables?
4. How can young children's writing be best evaluated, in a way both sensitive to and representative of the capabilities of the beginner?
5. What are the best identifiers of the writing ability of young children?

A pilot study allowed refinement of the attitudinal survey developed to assess children's attitudes toward writing. The main study, carried out over a two-week period in May of 1982, involved the testing and interviewing of the Grade One and Grade Two students (N = 108) on Salt Spring Island. Each child provided a narrative sample of creative writing entitled "The Wishing Stone", and took the appropriate level of the Gates-MacGinitie Reading

Tests. Individually, working with the investigator, the child completed the Peabody Picture Vocabulary Test and the attitudinal survey. Scoring criteria for the creative writing sample and the attitudinal survey were specified by the investigator. Pearson product-moment correlation coefficients and two-way analysis of variance techniques were used to determine whether statistically significant relationships and differences existed.

Conclusions

On the basis of the findings of this investigation, and within the scope of the limitations stated, several conclusions may be drawn.

Consistent with repeated findings stated in the research literature and the results of this study, writing and reading shared the strongest statistically significant relationship of all the variables considered, and this became evident only with the older Grade Two subjects, as compared to the Grade One children. It would seem that increased experience with written language and children's maturation allows clarification of this relationship, as the child consolidates language learning and may generalize between modalities.

The weaker relationship between writing and intelligence, as identified by the research literature, was again demonstrated only for the older Grade Two children in this study. Only a tenuous link was found between writing attitudes and writing ability and just for Grade One children. Thirty-six percent of

the correlations between attitudinal survey responses and writing measures reached significance at the Grade One level, while only six percent reached significance for the Grade Twos.

Sex differences were demonstrated in reading achievement, in that girls appeared to be better readers than boys. Negligible differences were found for all other measures, although it is of interest to note that girls wrote at greater length than boys, concurring with Graves' findings(1975).

Age differences significantly favoured the older children in terms of writing ability, reading achievement and IQ scores. The advantage afforded the Grade Two subjects points to the importance of developmental factors.

The Grade One responses to the survey inquiry, "What is reading?", had a higher mean than the Grade Two answers. The brief responses children gave provided an indication of their thinking about the reading process. The higher mean signals the possibility that Grade One children are more aware of the total process than the older children because reading, to them, represents a more recent accomplishment and even a novelty.

The most sensitive measures to writing ability, age and sex differences, and the interrelationships of different abilities were the production length, the number of uncommon words, the total T-unit count, and the ten category and quality ratings. A range of evaluative techniques which included syntactic, semantic, and holistic approaches proved to be useful indices of the productions

of beginning writers.

Educational Implications

The results of this study suggest the following conclusions, offering implications for educational practice.

The work of Chomsky (1976), Clay (1975), DeFord (1980), and Kita (1979) suggests that, given the general approach children take in understanding the written code, it may be advantageous to teach reading via writing. This has important implications for the Grade One and Two classrooms, where these two fundamentals of literacy are often designated as separate subjects from the beginning. The desirability of integration is further supported by the research findings of this study - the positive correlation between writing and reading skills.

The sizeable ability differences evident in writing, reading, and IQ between the grades reinforces the importance of the child's maturation in the acquisition of beginning literacy skills. This demands sensitivity in pedagogical practice, expressed through the pacing of learning experiences which give paramount respect to the child's needs.

Although the attitudinal survey did not reveal age or sex differences, or contribute to the picture of the writing/reading relationship, it did indicate that children do conceptualize the writing and reading processes. Teachers might be well advised to check these perceptions, not only to seek discrepancies between what is taught and what is being learned, but also for the purpose

of fostering positive attitudes toward these newly and rapidly acquired skills.

The evaluation of writing, both from a research point of view and an educational standpoint, deserves more attention. Although one addresses the question, "What are the characteristics of the written product?", and the other seeks to answer, "How can this writing be shaped and encouraged?", both need to be monitored for their underlying assumptions of what is important and responsive to the possibilities for productive change. The positive attitudes young children expressed in this study are overshadowed by research findings that older children find writing to be a relatively meaningless and painful endeavour.

Bereiter and Scardamalia (1981) reinforce the importance of knowing more about writing to edify our educational practice:

We do not truly own our thoughts or experience until we have negotiated them with ourselves, and for this writing is the prime medium. We will go so far as to say that people who know only the low road of writing do not have a mental life in the same sense that people on the high road do...the development of such a mental life, in which mental effort is continually directed toward the construction of meanings, is the primary responsibility of modern education. (p. 19)

Suggestions for Future Research

The failure to identify a statistically significant reading/writing relationship for Grade One children does not disprove the existence of such a relationship so much as provide a challenge for alternate research methodology by which to explore it. More research needs to be done in the area of beginning writing processes

in general. A variety of approaches, ranging from whole class to case study work, is warranted in that concurrent findings from experimental, observational, and interview techniques, can clarify questions posed about developmental processes, evaluation methods, attitudinal factors, and skill relationships.

This study could be replicated in order to investigate the possibility of generalizing these results, by using samples drawn from populations with different characteristics e.g., varied socioeconomic status, alternate educational settings, and different ability levels.

Further research is necessary to refine existing test instruments and to develop reliable and valid measures to assess children's perception about and attitudes toward reading and writing.

It is not enough to reach accuracy in the measurement of children's written products. The writing process, in meaningful contextual perspective, must be clearly documented.

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APPENDIX A
INSTRUCTIONS FOR CREATIVE WRITING LESSON

DIRECTIONS: READ THE PROCEDURE TWO TIMES TO THE CLASS.

I'd like you to get comfortable in your chair. O. K. Now close your eyes. We are going on an imaginary journey.

Pretend that you are walking in the forest. You find a large grey rock and you see that something is written on it. You come up very close and find the words "wishing stone" printed on it. A wishing stone! You touch the stone, turn around once and make one wish. You wish to become an animal for one week. Immediately your wish comes true! You are changed into your favourite animal. Today, we are going to write a story about your adventures as that animal. First, make sure that you have decided what animal you have changed into. Now, you are going to write a story about you as that animal. What did you do? Where did you go? What happened to you? Remember, you have a whole week as that animal. Don't worry about spelling. Just write the best you can.

NOTES:

1. Give the children 25 minutes for writing the story.
2. If the child has completed his story or is unable to write at all, he can lay his head down on the desk until the rest of the class has written their stories.
3. Remember to write the student's name on the paper. Include the child's first name, date of birth, and sex - male or female.

APPENDIX B

INTERVIEW PROCEDURE - ATTITUDINAL SURVEY

A SURVEY OF CHILDREN'S CONCEPTS ABOUT WRITING

1. What kinds of things do people print and write down on paper?
2. Why do you write?
3. Do you like to write stories?
4. Do you write letters to send to someone in the mail?
5. Do you like to write notes to your friends? lists? diaries?
6. Do you like to write stories about things that are close to your home? Do you like to write about things that are far away? For example...
7. What do you like to write about most?
8. Did you write anything today? What?
9. What is the hardest thing for you to do when you're writing a story?
10. What is the easiest thing for you to do when you're writing a story?
11. Do you write at home? What do you write?
12. Where do you like to write stories best? (e.g., at school, home, etc.)
13. Are you a good story writer? How do you know?
14. Who helps you to write?
15. Do you do writing together with painting and/or drawing?
16. How do you feel when you're writing a story?
17. Who do you write for? Who will read what you write?
18. Who is the best story writer in your class? How do you know?
19. As a writer, where do you fit in your class?

A SURVEY OF CHILDREN'S CONCEPTS ABOUT WRITING (continued)

20. Who do you know that does a lot of writing?
21. Who does the most writing in your family?
22. What is a story?
23. What is reading?
24. What makes a story good? What do you need to make your writing better?

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THE RELATIONSHIP BETWEEN THE WRITTEN LANGUAGE
OF GRADE ONE AND TWO CHILDREN
AND THEIR READING ABILITY, IQ, AND ATTITUDES

Author



SANDRA ELLEN SHOOK

Date