



Differences in sight vocabulary achievement of dependent and independent first grade children taught by direct and indirect teaching methods
by Robert Daniel Lockett

A thesis submitted in partial fulfillment of the requirements for the degree of DOCTOR OF EDUCATION
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Abstract:

The study was designed to determine if a difference existed in the mean gain sight vocabulary scores of low and high dependent and independent first grade boys and girls taught by a direct or an indirect teaching method. The purpose of the study was to conduct an experimental investigation of direct and indirect teaching methods in relationship to the context variables sex and dependent and independent personality types. Reading sight vocabulary was chosen as the criterion variable.

Seven research hypotheses were investigated. Three hypotheses were used to analyze mean gain scores of groups based on sex, personality type and teaching method. Hypotheses four, five and six addressed two-way interactions, and the seventh hypothesis considered three-way interactions.

Sex and independency groupings were found to be non-significant. The dependency grouping was significant. Research hypothesis number three addressed differences of first grade children's mean gain sight vocabulary scores based upon direct and indirect teaching methods. A significant F value was observed. A post hoc analysis revealed no significant differences between first grade children's scores based on direct and indirect teaching method. The significant F was accounted for by differences between the non-treatment group and the treatment groups. Investigations of two-way and three-way interactions were not significant.

It was found that regardless of teaching method, pupils profited from instruction. Both treatment groups achieved better results than the non-treatment group. Variations in teaching practices did not make a difference in group mean gain scores on sight vocabulary. The sex of the child and independency did not affect the level of outcome while dependency affected pupil learning of sight vocabulary words.

The investigator challenged the idea that a single preferred teaching method exists. Both direct and indirect teaching methods provided a setting in which children learned the desired outcome. Certain contextual factors which researchers and practitioners must accommodate are significant factors affecting pupil performance on dependent variables. Therefore, searching for generic teaching behaviors in different contexts recognizes the need to develop an environment in which children are taught in a variety of ways.

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AND INDEPENDENT FIRST GRADE CHILDREN TAUGHT
BY DIRECT AND INDIRECT TEACHING METHODS

by

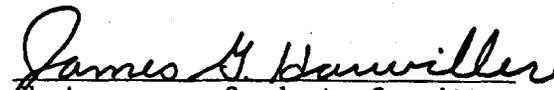
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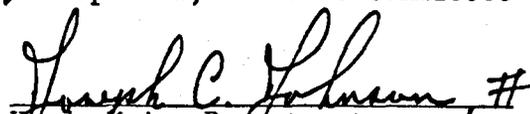
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ABSTRACT

The study was designed to determine if a difference existed in the mean gain sight vocabulary scores of low and high dependent and independent first grade boys and girls taught by a direct or an indirect teaching method. The purpose of the study was to conduct an experimental investigation of direct and indirect teaching methods in relationship to the context variables sex and dependent and independent personality types. Reading sight vocabulary was chosen as the criterion variable.

Seven research hypotheses were investigated. Three hypotheses were used to analyze mean gain scores of groups based on sex, personality type and teaching method. Hypotheses four, five and six addressed two-way interactions, and the seventh hypothesis considered three-way interactions.

Sex and independency groupings were found to be non-significant. The dependency grouping was significant. Research hypothesis number three addressed differences of first grade children's mean gain sight vocabulary scores based upon direct and indirect teaching methods. A significant F value was observed. A post hoc analysis revealed no significant differences between first grade children's scores based on direct and indirect teaching method. The significant F was accounted for by differences between the non-treatment group and the treatment groups. Investigations of two-way and three-way interactions were not significant.

It was found that regardless of teaching method, pupils profited from instruction. Both treatment groups achieved better results than the non-treatment group. Variations in teaching practices did not make a difference in group mean gain scores on sight vocabulary. The sex of the child and independency did not affect the level of outcome while dependency affected pupil learning of sight vocabulary words.

The investigator challenged the idea that a single preferred teaching method exists. Both direct and indirect teaching methods provided a setting in which children learned the desired outcome. Certain contextual factors which researchers and practitioners must accommodate are significant factors affecting pupil performance on dependent variables. Therefore, searching for generic teaching behaviors in different contexts recognizes the need to develop an environment in which children are taught in a variety of ways.

CHAPTER I

INTRODUCTION

As a teacher, a supervising principal of elementary schools and a graduate student, the investigator has long been intrigued, mystified and confused by the extent to which teacher behavior is a significant variable influencing learning in the classroom. Many writers have generalized that variations in teaching practices do not make significant differences (Gage, 1972). To the contrary, Bloom (1976) concluded that correlational studies supported by experimental evidence suggest that the quality of instruction is a causal link in determining learning and in accounting for educational achievement. A search of the literature on teacher effectiveness revealed many findings which supported a claimed relationship between specific teaching behaviors and desirable educational outcomes.

In a summary of research on classroom instruction, Rosenshine (1976) concluded that direct and indirect instructional models were the foci of this controversy. Whereas Flanders (1965) and others cited research advocating a general superiority of an indirect teaching method, Brophy and Evertson (1976) and others challenged their contention and claimed that for primary aged children a direct teaching method is superior to an indirect method.

Experimental studies were recommended by Gage (1972) and Dunkin and Biddle (1974) to provide solutions to such contradictions. Dunkin and Biddle (1974) proposed investigating independent variables associated with teachers in relation to context variables associated with pupils. Brophy and Evertson (1974) believed that a knowledge base establishing a relationship between specific teacher behaviors, specific situations and specific student outcomes was needed. According to Dunkin and Biddle (1974), only a handful of such experimental studies have appeared.

Numerous studies investigating the contextual factors of personality types in children were encountered in the literature. The effects of repeated applications of praise or blame on introverted and extroverted fifth grade children were investigated by Thompson and Hunnicutt (1944). They concluded that praise and blame should not be judged on an either/or basis but should be used to fit particular situations.

Whitehill and Jipson (1970) found extroverts work best in highly structured attention-focusing conditions while introverts were more successful in conditions that focus attention inwards to the task to be performed. They maintained that a reward or praise environment tended to focus attention outward.

A significant interaction was found between anxiety and task difficulty by Castaneda, Palermo and McCandess (1956). They

concluded that children identified as high anxious did not perform as well on difficult tasks, but that these same high anxious children performed in a superior manner on less difficult tasks.

The personality types compulsivity and anxiety were found to interact with teaching method in a study by Grimes and Allinsmith (1961). The investigators believed that implications of such findings suggests that for some children with certain personality types differences in teaching methods made a difference in pupil outcomes. Beller (1955) investigated the personality characteristics of dependency and independency of young children in the classroom. Instruments to measure these characteristics were developed by him. In a study investigating direct and indirect teaching methods on dependent-prone pupils, Amidon and Flanders (1961) concluded that dependent-prone personality type students learn more when taught by an indirect teaching method. Henderson, Long and Zellar (1965) reported retarded readers are characterized by a high degree of dependency. They claimed that dependency is disruptive to reading achievement. The nonintellectual correlates of reading, namely sex and various aspects of personality, have been researched (Harris, 1969). Although such studies generally found girls in the early grades achieve more in reading than boys, Harris was convinced that such findings are

nothing more than environmental factors. He did not believe that such issues have been clarified by research efforts. (Harris (1969: 1080) recommended:

Much more extensive research is needed to clarify the precise interaction of personality manifestations and the reading process to determine the extent to which intuitive clinical observations of these often intimate relationships may be extended to the general population.

A variety of methods to develop a reading vocabulary generally and a sight vocabulary specifically have been advocated in the literature. Most authorities generally agreed on the importance of developing a basic sight vocabulary in beginning reading. Progress in reading without developing a basic sight vocabulary was not viewed as possible (Tinker and McCullough, 1975). Dolch (1936) maintained that the pupil who recognizes his sight vocabulary of 220 service words possesses a basic word knowledge that would enable that pupil to attack most reading material and to be able to get some meaning from that reading matter. Fry (1960) found 63% of the vocabulary words used by children in the process of learning to read were contained within 300 basic words that children had come in contact with during the first three years of reading. He claimed that his data showed the need for effectively teaching a fundamental sight vocabulary so that children could instantly recognize and get meaning from these words. While studies have developed basic word lists, most recent

studies by Johnson (1971), Johns (1972), Durr (1973), Hillerich (1974) and Lowe and Follman (1974) did not discredit the present day usefulness of the Dolch list.

A major controversy existed over which method of teaching reading was better. Chall (1967) investigated methods of teaching beginning reading and concluded that a code-emphasis produced better results than a meaning-emphasis approach. She did recognize, however, that previous analyses by others of almost the same body of knowledge had provided different conclusions.

Bond and Dykstra (1967) argued that skill development in word learning is essential in beginning reading, and skills must be taught regardless of which reading method was employed. The authors suggested that a promising area for further research might be things which teachers and students do together, and the manner in which teachers and pupils interact. Their recommendation was compatible with Dunkin and Biddle's (1974) proposal for investigating independent variables associated with teachers in relation to context variables associated with pupils.

In summary, the purpose of this investigation was to conduct an experimental study in which teaching method was systematically manipulated, sex and dependent and independent personality type were identified and analyzed and reading sight vocabulary was utilized as the criterion of effectiveness.

Statement of the Problem

It was the intent of the investigation to determine if a relationship existed among teacher behaviors, a specific situation and a pupil outcome. The study was designed to determine if a difference existed in the mean gain sight vocabulary scores of low and high dependent and independent first grade boys and girls taught by a direct or an indirect teaching method.

Need For or Purpose of the Study

The purpose of this study was to conduct an experimental investigation of direct and indirect teaching methods. Dunkin and Biddle (1974) recommended differentiating between independent variables associated with teachers and context variables associated with pupils. The distinction made between the two variables by the authors was one of coping and accommodating: independent variables express strategies by which investigators and practitioners cope; and context variables concern conditions to which they must accommodate. It was claimed by the researchers that in the very few experimental designs which have incorporated pupil context variables, such research has proven to be effective. In this study the context variables investigated in relation to the independent variable were sex and dependent and independent personality types. Reading sight vocabulary was

chosen as the criterion variable because of the importance of acquiring a sight vocabulary in beginning reading.

According to Gage (1972), a need existed to conduct experimental research in education. Experimental research investigating independent variables in relation to context variables was needed in order to find solutions to existing contradictions (Dunkin and Biddle, 1974). Direct and indirect teaching methods were identified as the foci of a controversy on classroom instruction. Claims of superiority for each have been made. Questions concerning certain personality relationships to educational achievement have not been sufficiently clarified by research. Reading authorities have suggested investigating independent variables associated with teachers in relation to context variables associated with children. Even though there was a controversy as to which reading method produced better results, most authorities agreed on the importance of developing a basic sight vocabulary in beginning reading.

General Questions to be Answered

The study addressed seven general questions. The first three questions were posed in order to examine the main treatment effects. The remaining four questions pertained to interactions between and among the independent and context variables. These general questions were asked:

1. Is there a difference between first grade boy's and girl's mean gain sight vocabulary scores?
2. Is there a difference between first grade children's mean gain sight vocabulary scores when grouped by low-high dependent and low-high independent personality types?
3. Is there a difference between first grade children's mean gain sight vocabulary scores when taught by direct and indirect teaching methods?
4. Is there an interaction between sex and teaching method as determined by mean gain sight vocabulary scores?
5. Is there an interaction between sex and personality type as determined by mean gain sight vocabulary scores?
6. Is there an interaction between personality type and teaching method as determined by mean gain sight vocabulary scores?
7. Is there an interaction among sex, personality type and teaching method as determined by mean gain sight vocabulary scores?

Limitations and Delimitations

The following limitations and delimitations of the study were identified:

1. The review of literature was confined to an ERIC search, the library at Montana State University and the investigator's personal library.
2. The experimental treatments involved only four one-half hour lessons per group.
3. The lessons emphasized only twenty selected sight words.
4. There was no provision for measurement of the validity of the specific twenty sight word test used.

5. The study was limited to first grade children in the Bozeman, Montana public schools.
6. There was a small number of pupils used in the study.
7. The dependent variable was measured by mean gain scores.

Definition of Terms

The following key terms were used in the study:

1. Basic sight vocabulary. The words taught so as to be instantly recognized. The reader recognizes the word and the meaning so rapidly that the word does not come between him and the meaning (Dolch, 1950: 251).
2. Category 1 - Accepting and clarifying feelings. Teacher statements that react to student feelings or attitudes in a nonthreatening, objective manner are coded Category 1 (Flanders, Werner, Elder, Newman and Lai, 1974: 36).
3. Category 2 - Praising and encouraging. Praise and encouragement are teacher statements carrying a value judgment of approval. Encouragement consists of urging the student to continue his current behavior (Flanders, Werner, Elder, Newman and Lai, 1974: 39).
4. Category 3 - Accepting or using student ideas. Category 3 is used for teacher statements that respond and react to a student idea. Category 3 includes acknowledging student ideas, clarifying student ideas and using a student idea (Flanders, Werner, Elder, Newman and Lai, 1974: 25).
5. Category 4 - Asking questions. A Category 4 statement is based on the teacher's ideas and is made with the intent that a student will answer. It is a genuine invitation for student participation and may or may not take the form of a question grammatically (Flanders, Werner, Elder, Newman and Lai, 1974: 12).
6. Category 5 - Lecturing. A statement is coded as Category 5 when the teacher is giving information, facts, opinions or ideas to students (Flanders, Werner, Elder, Newman and Lai, 1974: 14).

7. Category 6 - Giving directions. This category is used when the teacher makes a statement calling for compliant behavior on the part of the student (Flanders, Werner, Elder, Newman, and Lai, 1974: 14).
8. Category 7 - Criticizing or justifying authority. In Category 7 a teacher discourages a particular student behavior, points out errors or corrects mistakes in a manner suggesting that the student should know better, expresses negative evaluations about students (or their work and explains or rationalizes his use of authority (Flanders, Werner, Elder, Newman, and Lai, 1974: 40).
9. Category 8 - Student talk: responding. This category is used when a student responds directly and predictably to a teacher question (Category 4) or when he responds verbally to a teacher direction (Category 6) (Flanders, Werner, Elder, Newman, and Lai, 1974: 16).
10. Category 9 - Student talk: initiating. A student is initiating his own ideas and making statements when he volunteers an opinion or idea, analyzes, synthesizes or evaluates as opposed to recalling facts or experiences and displays independence, rather than conforming to the teacher's ideas or opinions (Flanders, Werner, Elder, Newman and Lai, 1974: 27).
11. Category 10 - Silence or confusion. Category 10 is recorded whenever there is a pause, silence or confusion in the class (Flanders, Werner, Elder, Newman, and Lai, 1974: 42).
12. Context variable. Context variables include conditions associated with pupils, classroom, school and community. Context variables express conditions to which educators must accommodate (Dunkin and Biddle, 1974: 410).
13. Dependent. A rating of personality type given on the behaviors seeking help, seeking proximity, seeking physical contact, seeking attention and seeking recognition (Beller, 1957: 287-315).
14. Direct teaching. Teacher verbal behavior classified according to Flanders' System of Interaction Analysis as Categories 5, 6, and 7 (Amidon and Flanders, 1963).

15. High dependent. A child rated by his teacher using the Beller's dependency scale and having a score of 22-35.
16. High independent. A child rated by his teacher using the Beller's independency scale and having a score of 28-35.
17. Independent. A rating of personality type given on the behaviors taking initiative, trying to overcome obstacles in the environment, trying to carry activities to completion, getting satisfaction from work and trying to do routine task by oneself (Beller, 1957: 287-315).
18. Indirect teaching. Teacher verbal behavior classified according to Flanders' System of Interaction Analysis as Categories 1, 2, 3 and 4 (Amidon and Flanders, 1963).
19. Low dependent. A child rated by his teacher using the Beller's scale and having a score of 5-16.
20. Indirect teaching. Teacher verbal behavior classified according to Flanders' System of Interaction Analysis as Categories 1, 2, 3 and 4 (Amidon and Flanders, 1963).
21. Personality type. A construct according to which individuals with a certain outstanding trait or cluster of traits are considered as belonging together for descriptive purposes, for example, introvert, extrovert (Good, 1973: 417).
22. Revised direct teaching. Teacher verbal behavior classified according to Flanders' System of Interaction Analysis as Categories 6 and 7 (Amidon and Flanders, 1963).
23. Semisc scripted lesson. A written teaching exercise which provides a precise order, action and role for the teacher.
24. Revised indirect teaching. Teacher verbal behavior classified according to Flanders' System of Interaction Analysis as Categories 1, 2, and 3 (Amidon and Flanders, 1963).
25. Sight word. Experts in the field of reading do not agree on a single list of sight words. Most lists include words selected on the basis of their high utility, irregular letter sound association and commonly occurring in children's speaking vocabularies.

26. Sight vocabulary. The words that the child immediately recognizes as he reads, without resort to word-analysis techniques (Good, 1973: 644).
27. Transformed dependent. A low, medium and high grouping of children ranked by their teacher on the Beller's Child Dependency on Adult Scale. Using the cumulative frequency data, dependency scores of 5-16 were classified as low dependency; scores of 17-21 were classified as medium dependency; and scores of 22-35 were classified as high dependency.
28. Transformed independent. A low, medium and high grouping of children ranked by their teacher on the Beller's Scale of Independency or Autonomy Among Children. Using the cumulative frequency data, independency scores of 5-22 were classified as low independency; scores of 23-27 were classified as medium independency; and scores of 28-35 were classified as high independency.
29. Vocabulary exercise. A teaching or learning experience that concentrates on word recognition and word meaning (Good, 1973: 225).

Summary

The purpose of this investigation was to conduct an experimental study in which teaching method was systematically manipulated, sex and dependent and independent personality type were identified and analyzed and reading sight vocabulary was utilized as the criterion of effectiveness. It was the intent of the investigation to determine if a relationship existed among teacher behaviors, a specific situation and a pupil outcome. The study was designated to determine if a difference existed in the mean gain sight vocabulary scores of low

and high dependent and independent first grade boys and girls taught by a direct or an indirect teaching method.

Direct and indirect teaching methods were identified as the foci of a controversy on classroom instruction. Claims of superiority for each have been made. Questions concerning certain personality relationships to educational achievement have not been sufficiently clarified by research. Even though there was a controversy as to which reading method produced better results, most authorities agreed on the importance of developing a basic sight vocabulary in beginning reading.

A need to conduct experimental research in education has been identified. More specifically, experimental research investigating independent variables in relation to context variables was recommended in order to find solutions to existing contradictions.

This study addressed seven general questions. The first three questions were posed in order to examine the main treatment effects. The remaining four questions pertained to interaction between and among the independent and context variables.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Wallen and Travers (1963: 448) stated: "Research on teaching methods is the study of consistencies in the behavior of teachers and the effect of these consistencies on the learning process." The authors maintained that there has been little empirical evidence to suggest which methods of teaching are desirable. The research dealing with this issue has been ambiguous. Joyce and Weil (1971) maintained that research is hard to interpret. Evidence to date provides little encouragement for practitioners and theorists who search for a single teaching strategy. Medley (1977) stated that the literature on teacher effectiveness is vast, mostly inaccessible and difficult to evaluate. After reviewing studies addressing classroom instruction, Rosenshine (1976) reduced the controversy over instructional models to a dichotomous direct versus an indirect approach.

In this chapter the investigator reviews the research related to the independent variable, the context variables and the criterion variable.

Independent Variable

Indirect Methodology

In the early 1950's Withall (1951) investigated a means for developing a ratio to be used in studying learner centered and teacher centered situations. He attempted to measure the social-emotional climate of learning situations. In his efforts to find a ratio, Withall developed an instrument that he claimed would measure and categorize what the teacher said.

This work of Withall appears to have influenced the work of Ned Flanders. Flanders (1951) believed teacher behavior to be a significant variable within the classroom. He hypothesized that what the teacher did and said in the classroom influenced the nature of learning and the classroom instructional climate. In this early study he concluded that anxiety was a motivator and interrupted behavior related to learning. Flanders stated that direct, demeaning behavior on the part of the teacher caused the student to behave negatively toward the learning task. He claimed that accepting behavior by the teacher oriented toward the student caused the student to be more task oriented and decreased interpersonal anxiety on the part of students.

From his early works Flanders (1965) developed a research tool to study the relationship between teacher verbal behavior and

attitudes of students as determined by an inventory. He found a relationship among teacher statements, pupil attitudes toward the teacher and the classroom learning activities. Flanders (1965) maintained,

At different age levels that exist at primary, elementary junior high, and senior high school grade levels, across different combinations of pupil personality and individual differences, with different types of teaching styles, and even in two countries which differ in the formality of teacher-pupil relationships, students react similarly to the same differences in teacher influence.

He used his ten-category system of verbal interaction to assess teacher influence in the classroom. Studying teachers in naturalistic settings, the researcher identified instructors who employed a tendency toward indirect teacher influence. He noted teachers identified as indirect were capable of employing a flexible style in certain situations. Using his system of interaction analysis, Flanders was able to predict specific patterns of flexible teachers. He found flexible teachers to be indirect during the period when goals were being established and direct in their instructional style after goals had been established and work on the task was in progress. Flanders stated that all students learned more while working with flexible teachers. He hypothesized that future research might be able to determine what types of students learn more effectively while working with direct teachers.

A study using Flanders' System of Interaction Analysis was conducted by Amidon and Giammatteo (1967) to determine whether teachers

identified by their supervisors as superior teachers exhibited any characteristic verbal behavior patterns. The investigators concluded that superior teachers differ in their verbal characteristics from average teachers. The study was consistent with the findings of Flanders. Amidon and Giammatteo found superior teachers dominate their classrooms less, used indirect verbal behavior more and used direction giving and criticism less often. They stated that superior teachers asked broader questions and allowed students to interrupt their lectures more often to ask questions.

In another study using Flanders' System of Interaction Analysis, Amidon and Flanders (1961) attempted to determine whether dependent-prone eighth grade students achieved better at geometry instruction with an indirect teaching method. A post-achievement test was analyzed and a comparison of scores between the direct and indirect teaching methods was made. It was concluded that dependent-prone students learned more in classrooms in which the teacher was using an indirect teaching method. The indirect method employed techniques of giving fewer directions, less criticism, less lecturing, more praise and asking more questions in order to elicit more student verbal participation. The authors suggested an implication of the study might be that direct influence used to supervise students closely may be counterproductive and harmful to dependent-prone students.

Furst and Amidon (1967) conducted a stratified random sample study to determine differences in verbal interaction patterns of first, second, third, fourth, fifth and six grade pupils, and to determine differences in interaction patterns among the subjects of reading, arithmetic and social studies. The study used Flanders' System of Interaction Analysis to collect, categorize and analyze verbal behavior of students and teachers. They found that first and second grade teachers talked more in social studies than in reading and arithmetic, third and fourth grade teachers talked more in arithmetic, and sixth grade teachers talked more in social studies. The least amount of pupil talk in first and second grades was in social studies, while third, fourth and fifth grade students talked least in arithmetic. The researchers determined third, fourth, and fifth grade students talked more in reading and less in arithmetic. It was found that extended indirect teacher influence was greater in social studies, and extended direct influence by the teacher was greater in arithmetic. An interesting question raised by the study was what do first and sixth grade teachers have in common in their use of praise and in their flexibility in the use of extended indirect influence. A relationship between a lack of student-initiated interaction in reading and arithmetic and the teacher using limited praise and more direct teaching was hypothesized.

Optimal amounts of indirectness for teaching reading vocabulary and creativity were hypothesized by Soar (1968). However, instead of asking a linear question, he asked a curvilinear question. Soar applied statistical analyses to data previously gathered. He concluded that optimal levels of indirectness for each of the measures of pupil growth fell in the order predicted. Reading had the most direct optimal level and vocabulary a less optimal level. Clearly pointing to the limitations of his post hoc study, Soar (1968) suggested additional research might be able to specify degrees of directness which would produce the most pupil growth for a given subject or content area. He believed the results of his study did provide evidence that when presenting concrete material to pupils, the teacher should employ an indirect teaching method. Soar contended that teachers should be capable of changing style or method of teaching based on the lesson being taught.

A substantial body of knowledge exists, according to Gage (1972), to support that teachers differ in their use of teaching methods. Allowing for these differences, he concluded that indirect teaching is desirable.

Dunkin and Biddle (1974) arrived at two possible conclusions concerning indirect teaching. One conclusion was that indirectness has a variety of effects, depending on contextual conditions. The second was that indirectness is not a unitary phenomenon and should

be abandoned as a variable. In short, they believed that indirectness should be abandoned as a variable and that practitioners should cease using it as a means of conceptualizing classrooms.

Direct Methodology

In a two-year field study utilizing observational techniques, Brophy and Evertson (1976) studied second and third grade teachers and their ability to produce achievement results in children on standardized tests. The researchers used only teachers who had four or more years of experience teaching their grade levels. They studied their population using the sociological context variables of high socioeconomic status and low socioeconomic status schools. They attempted to identify a relationship among specific teacher behaviors, situations and pupil outcomes. Teacher effectiveness was defined as "effectiveness in producing student learning gains on standardized achievement tests of language arts (word knowledge, word discrimination, and reading) and mathematics" (Brophy and Evertson, 1976: 11).

Brophy and Evertson concluded that many discrepancies between their findings and those of other researchers such as Flanders could be accounted for by the fact that their study was specifically investigating primary age children. They claimed that previous studies were made with older children and generalized to primary children.

Teaching in the primary grades was viewed as being different from teaching intermediate age and older children (Brophy and Evertson, 1976). They believed there was a systematic interaction between children's cognitive levels and their ages. Younger children needed more structuring. Because of their level of cognitive development, primary children needed a direct teaching style. The researchers continued by saying that as children grew older, they might be able to benefit more from an indirect teaching method. Effective teachers, according to them, initiated interaction with rather than responded to pupils. In other words, effective teachers did not wait for a student to do something; they initiated situations in which students responded. These researchers concluded by suggesting investigators interested in teacher effectiveness focus on cause-and-effect relationships and build a knowledge base of effective teaching methods instead of searching for characteristics of teachers.

Rosenshine (1976) conducted a review of selected instructional variables. Based on three studies--those by Stallings and Kaskowitz (1974), Soar (1973), and Brophy and Evertson (1974)--he concluded that children of low socio-economic status achieve more in academic learning by direct instruction. He believed the results of these studies support a pattern of direct instruction.

Summarizing their research on directiveness as a teaching variable, Dunkin and Biddle (1974) stated that direct teaching as an

independent variable is not as conceptually confusing as indirectness. The authors recognized the contributions the concept of direct teaching has made to research; however, they concluded that the concept of direct teaching is inadequate.

Medley (1977) examined the relationship of teacher competence to teacher effectiveness in process-product research. He made a distinction that competence deals with how a teacher teaches, and it is measured in terms of teacher behavior. Teacher effectiveness is measured in terms of pupil learning. After reviewing 289 studies which examined the relationship between teacher behavior and pupil learning, he concluded that teachers may need to use different strategies depending on the context or situation. Medley (1977) claimed that the data reviewed consistently suggested that teachers who employed direct teaching techniques and procedures with primary-aged children classified as low socio-economic status obtain greater cognitive gains in reading and mathematics.

Context Variables

After reviewing the literature concerning direct and indirect teaching methods, the investigator conducted a review of the available literature on sex differences in learning to read and dependent and independent personality type variables associated with young children.

Sex Differences

Heilman (1967) conducted an extensive review citing fifty-three references on sex differences in learning to read. After reviewing sources from as early as 1909 to the Cooperative First Grade Studies conducted during the 1964-65 school year, he concluded that evidence appears to show differences in favor of girls in learning reading skills in the primary grades.

Girls tended to read six months earlier than boys in a study by Anderson (1956). In an investigation in which she attempted to identify approaches to reading instruction advantageous to boys, Wyatt (1967) reported that boys did not learn to read as well as girls in the primary grades.

While many of the studies reported significant learning differences in favor of girls, some evidence existed demonstrating no differences. Herman and Crisculo (1968) did not find a significant sex difference in a study working with inner city first grade children. No significant sex differences were found by Chall and Feldman (1966) in a research project in which they participated.

Harris (1969) believed that although studies generally find girls in the early grades achieve more in reading than boys, he is convinced that such findings are nothing more than environmental factors. He recommended more extensive research in order to clarify the issue.

Dependent and Independent Personality
Types in Young Children

Amidon and Flanders (1961) were interested in determining if dependent-prone students were overly concerned with following the suggestions or directions of the teacher and being more dependent on support from the teacher. Working with eighth-grade geometry pupils, they concluded that direct teaching might be harmful to dependent-prone students. They claimed that dependent-prone students learned more when the teacher gave fewer directions, criticized less, lectured less, praised more and asked more questions which increased pupil participation.

Preschool children with heightened dependency needs were found to be highly anxious when nurturance from the experimenter was withdrawn or absent. It was maintained by Hartup (1958) that such anxiety serves to facilitate simple task performance and to interfere with complex task performance. The researcher concluded that nurturance withdrawal supplied greater motivation than consistent nurturance, and nurturance withdrawal stimulated faster learning of simple tasks than nurturance. Hartup believed some second--or third order interaction existed among nurturance withdrawal, sex of the child, sex of the experimenter and dependence.

DiBartolo and Vinack (1969) utilized Beller's (1955) scale of dependency in a study. Children were rated, classified and

identified as low-dependent and high-dependent. A puzzle task was utilized as the criterion variable. They found that children rated as high-dependent and receiving no praise performed more poorly on a complex puzzle task than other children.

Much of the research on dependency and independency has been conducted with preschool children. Sears and Dowley (1963) believed that an aim of preschool educators is the achievement of some emotional independence by children from adults without undue side effects such as anxiety or insecurity.

A true-false test to measure dependency in eight- to twelve-year old children was developed by Golightly, Nelson and Johnson (1970). They claimed children's dependency scores decreased as a function of increasing grade level and that girls were more dependent than boys.

While many investigators did not distinguish between kinds of dependency and independency, Heathers (1955) discussed specific types of dependency. He referred to instrumental or "needs for help" dependency and emotional or "needs for reassurance, affection or approval" dependency. Dependency needs required interaction with others, and instrumental and emotional dependency needs were only satisfied when others responded to the child. Bandura and Walters (1963) differentiated between kinds of dependency when they discussed task-oriented dependency and person-oriented dependency.

The Dependent Variable

Finally, the investigator reviewed the literature on the dependent variable reading sight vocabulary. According to Spache (1964), people in the field of education use the term vocabulary indiscriminately as though they were speaking of a single kind of vocabulary. Throughout the literature the investigator found examples supporting Spache's contention.

Listening, speaking, reading, and writing vocabularies were discussed by Bond and Wagner (1950). These writers maintained the existence of a hierarchial relationship among the four kinds of vocabularies. Bond and Wagner not only differentiated kinds of vocabularies, they also differentiated the extent and size of the different vocabularies. They claimed that at the time of entry into school, the child's listening vocabulary is the largest among the various vocabularies with the speaking vocabulary being second largest.

While many writers did not differentiate between kinds of vocabularies, Spache (1964) referred to a sight vocabulary and a meaning vocabulary when discussing reading vocabulary. Spache (1964) stated: "When we speak of the child's reading vocabulary in the primary grade levels, we usually mean his sight vocabulary," and "when we refer to his reading vocabulary in the intermediate and upper elementary grades, we really mean his meaning vocabulary."

Bond and Wagner (1950) wrote about a sight vocabulary and used the term word recognition. They stated that there are two elements of importance in a sight vocabulary. The meaning of the word to be recognized must have meaning to the reader, and the reader must be able to get meaning from the printed symbol.

Developing a meaning vocabulary and providing instruction in word recognition were referred to by McKee (1937) as the main function in the development of reading in the primary grades. He believed that the development of meaning is a higher priority than training in word recognition.

Durrell's (1956) priorities were different from McKee's. He believed the development of a sight vocabulary to be essential in the primary grades. Even though his emphasis was different, Durrell included word recognition, word meaning, and word analysis as the essential word skills to be taught in the primary grades.

The position of Heilman (1967) was similar to McKee's in that he viewed meaning as the primary purpose in beginning reading. According to Heilman, there are three goals in the process of beginning reading: first is to develop and build a sight vocabulary; second is to develop an association between the speaking vocabulary and visual symbols; and third is to ensure reading is a process in which the reader demands and gets meaning from the symbols.

Many writers used the term vocabulary without specifically stating or defining how it is being used. Vocabulary appeared to be a multi-faceted concept and one which needed precise meaning and understanding. Deighton (1960) noted this ambiguity in the use of the term. Spache (1964: 327) stated:

Just what is the significance of our interpretation of the term vocabulary? It is important to recognize the differences among the various kinds of vocabulary growth simply to avoid the loose thinking and faulty teaching practices based on the assumption that a pupil has a "vocabulary".

Bond and Wagner (1950), Deighton (1960), Durkin (1970), and Herber (1970) used the components of a receptive and an expressive vocabulary when referring to listening, speaking, reading, and writing vocabularies. Bond and Wagner (1950), McKee (1937), and Durrell (1956) used word recognition in conjunction with vocabulary development in the primary grades. Spache (1964) and Heilman (1967) were explicit in discussing a sight vocabulary and a meaning vocabulary.

A second area related to vocabulary involved research on techniques or methods of developing a reading vocabulary. Different methods of vocabulary development were encountered, and terms were not always precisely defined when used in reference to techniques or methods described. Addy (1941) surveyed teachers and supervisors to determine their opinions on methods of vocabulary development. Gray and Holmes (1960) investigated direct and incidental training in vocabulary

development. Deighton (1960) stated five principles to be followed in vocabulary study. Karlin (1971) believed that a combination of ways to develop vocabulary are better than any single approach for producing vocabulary achievement results in children. Tinker and McCullough (1975) believed a direct study of words should occur only for important words which are encountered in context. Russell and Fea (1963) stated investigators recognize three means of vocabulary development: wide reading; direct instruction; and incidental instruction. Spache (1964) referred to direct teaching and incidental techniques for developing vocabulary. Serra (1952) discussed vocabulary in connection with concept development and concluded that a wide range of experiences of both a direct and indirect nature are needed. Kingston (1965) stated direct vocabulary instruction is more beneficial and effective with students who possess varied concepts.

In a study reported by Gray (1960), Gray and Holmes concluded direct training should be emphasized in vocabulary development. Their conclusion was made after conducting an experimental study to investigate the comparative effectiveness of direct and incidental training on vocabulary development. The study was conducted using fourth-grade pupils and fourth-grade social studies materials. Gray and Holmes (1938) concluded:

Specific, direct help in developing meaning brings greater vocabulary growth than incidental learning or meaning. Stock of "sight" words may be greatly expanded by encountering new words

in material read. Growth is stimulated if the author makes frequent use of definitions, illustrations, etc., in explaining meaning. Discussions attendant on a unit tend to expand and enrich meaning association with words. Pupils with limited vocabulary development are not able to grasp meaning of new words readily without specific help. Specific guidance in vocabulary development is of particular value with pupils of limited initial achievement and limited mental ability. Context is the chief aid to development of meaning when specific guidance is not given. When direct guidance is given in learning meanings, gains are uniform for verbs, nouns, and adjectives. When children are taught word meanings, verbs are learned most readily, nouns next and adjectives least readily.

Continuing with their conclusions, Gray and Holmes stated that a direct method of vocabulary development is beneficial in writing and speaking vocabularies and in silent reading and areas related to reading comprehension. They claimed a direct method of vocabulary development is superior in developing word recognition to an incidental method.

Four techniques for vocabulary development were discussed by Karlin (1972). His methods involved such activities as dictionary work, studying multiple meaning in words, studying words in context, and the using of context clues. He maintained that words which are initially presented to students in a meaningful context will produce more significant results in the development of a sight vocabulary.

Progress in reading without the development of a basic sight vocabulary was not viewed as possible (Tinker and McCullough, 1975). Tinker and McCullough's ideas on the merging of concepts and understandings by such activities as extensive reading, language

experiences, and direct study of words were comparable to those of Serra (1952) and Kingston (1965).

Direct and incidental methods have value, and both methods should be used in the development of vocabulary (McCullough, 1957). The deliberate study of a list of words and sentences containing words, and the study of words which occur in materials which students are currently reading were methods supported by McCullough.

Most authorities from the field of teaching reading seemed to generally agree on the importance of developing a sight vocabulary in beginning reading. Although a variety of approaches to beginning reading were advocated, code-emphasis and meaning-emphasis approaches were the center of a reading methods controversy. According to Chall (1967), children may learn to read with either approach but advocates of each method claimed superiority.

Chall (1967: 75) said that proponents of a code-emphasis method "believe that the initial stage in reading instructions should emphasize teaching children to master a code--the alphabetic code." After extensively reviewing major studies conducted from 1912 to 1965, she concluded that a code-emphasis in beginning reading was essentially superior. However, she did recognize that previous analyses of the same body of knowledge by others had concluded that a meaning-emphasis method was superior. Clearly stating that she did not recommend ignoring a meaning approach, Chall claimed that better results for

meaning are achieved when programs emphasized code in beginning programs.

Heilman (1972) stated:

The purpose of phonics instruction is to help the child develop the ability to work out the pronunciation of the printed word-symbols which at the moment he does not know as sight words. Phonics instruction in early reading does not focus on teaching the child how to pronounce words, but rather that printed letter-combinations represent a word he already knows and uses in his oral language. Learning word analysis skills, including phonics, is an absolute necessity for learning to read. No child will learn to read, at what might be designated as fluent third grade level, unless he has mastered a number of insights into cracking the code.

Bond and Dykstra (1967) maintained that skill development in word study was essential. The development of word study skills must be mastered regardless of which reading method is employed. After a comprehensive research project, they did not find one approach generally superior. Later, Dykstra (1968) agreed with Chall's position when he wrote that from the very beginning of the reading program, the pupil taught by the alphabet-code process achieved superior results in reading by the end of second grade. Harris (1972) also supported Chall's contention that a code-emphasis method was more important than meaning in beginning reading.

The meaning-emphasis method placed priority on obtaining meaning from the printed page at the very beginning of the reading process. Children were taught to expect and demand meaning from what they

read. Deriving meaning from printed symbols takes priority over the mechanics of learning a code at the initial stages of beginning reading. In beginning reading many words are learned by sight simply because many of the common basic words do not reflect phonic generalizations. According to Fay (1961: 162):

...emphasis for the beginning reader is upon meaning. The child memorizes a basic sight vocabulary and on the basis of these is directed to the study of phonetic analysis, structural analysis, word form and context clues.

Despite the controversy over which reading method was superior, a growing belief has developed that the teacher is the most important factor having an impact on the learning process. Authorities such as Chall (1967), Durkin (1969), Heilman (1969), and Karlin (1971) have concluded that the classroom teacher is the single most important variable influencing how well a child learns to read.

Summary of the Review of Related Literature

The literature search was conducted and reported according to the independent, context and dependent variables of interest to the study. A review of direct and indirect teaching methods revealed contradictory findings. While sex differences in learning to read were inconclusive, evidence existed which indicated that dependency and independency may be factors influencing learning outcomes. Even though many authorities agreed on the importance of developing a

sight vocabulary, a major controversy existed as to whether a code-emphasis or a meaning-emphasis approach produced better results. As with direct and indirect teaching methods and sex differences in learning to read, findings on the development of a sight vocabulary were contradictory and difficult to interpret.

CHAPTER III

PROCEDURES

Introduction

The study was designed to determine if a difference existed in the mean gain sight vocabulary scores of low and high dependent and independent first grade boys and girls taught by a direct or an indirect teaching method. The purpose of the study was to conduct an experimental investigation of direct and indirect teaching methods in relationship to the context variables sex and dependent and independent personality types. Reading sight vocabulary was chosen as the criterion variable because of the importance of acquiring a sight vocabulary in beginning reading. A review of the literature revealed contradictory evidence concerning direct and indirect teaching methods, inconclusive findings on sex differences in learning to read, evidence suggesting that dependency and independency may influence learning and contradictory and difficult to interpret findings on developing a sight vocabulary.

This study was designed to determine if a significant relationship existed among specific teacher behaviors (direct and indirect teaching methods), specific situations (low and high dependent and independent first grade boys and girls) and specific student outcomes (mean gain sight vocabulary scores). In this chapter the procedures

followed included: describing the setting, selecting the classes, selecting the subjects, assigning the subjects to treatment groups, describing the treatments, describing the methods of organizing the data, stating the hypotheses, explaining how the data were analyzed, identifying precautions taken to insure accuracy and summarizing the chapter on procedures.

The Setting

For purposes of this study the population was 188 first grade children from the Bozeman, Montana public schools. Intact classes were used in conducting the study, and the subjects were partitioned from nine intact first grade classes using statistical criteria. Only children enrolled on January 3, 1979 participated in the study.

The Bozeman, Montana public schools, School District No. 7, served the city of Bozeman and the surrounding rural areas. Bozeman is the sixth largest city in the state with a population of approximately 20,000. Montana State University is located in Bozeman and a large segment of the community is comprised of students and staff from the university.

The Bozeman public school system, with an enrollment of approximately 4,600 students, is organized into five kindergarten to fourth grade elementary schools; one fifth and sixth grade middle school;

one seventh, eighth and ninth grade junior high school; and one tenth, eleventh and twelfth grade senior high school.

Selecting the Classes

There were fourteen first grade classes in the Bozeman schools. The Whittier Elementary School was not used because the school used a different basal series in first grade. The remaining eleven first grade classes housed in the Emerson, Hawthorne, Irving and Longfellow schools used the same basal series in first grade. The two classes at the Hawthorne School were not retained in the study when a statistical analysis revealed the sex ratio to be non-equivalent. The 188 pupils of the population were housed in nine intact first grade classes at the Emerson, Irving and Longfellow Schools.

Selecting the Subjects

Each of the nine intact classes were administered the Basic Sight Word Test, classified as male or female, rated by their teacher on dependency using Beller's Child Dependency on Adults Scale and rated by their teacher on independency utilizing Beller's Scale of Independency or Autonomy Among Children. This data is provided in Appendix A. The Basic Sight Word Test and the Beller instruments are described in the methods of collecting data section in this chapter.

The purpose of the study was to determine if a difference in sight vocabulary achievement of dependent and independent first grade children taught by a direct or indirect teaching method existed. It was believed that the integrity of the direct and indirect treatment effects would be preserved by deleting all children from the analysis whose Basic Sight Word Test scores equaled or exceeded 180. Utilizing the cumulative frequency data from the Beller's instruments, pupils rated in the lower and upper third of dependency and independency were used in the study. Only students in Intact Classes A, B, C, F, G, and I whose Basic Sight Word Test scores were equal to or less than 180 and rated in the lower and upper third on dependency and independency were analyzed in the study. These pupils became the subjects of the study and are identified in Statistical Groups A, B, C, F, G, and I in Appendix B.

Assigning Subjects to Treatment Groups

Subjects from Statistical Groups A and I were partitioned for analysis purposes only into a direct teaching method treatment group. Statistical Groups B and G were partitioned for analysis purposes only into the indirect treatment group, and Statistical Groups C and F were partitioned for analysis purposes only into the non-treatment group. Neither classes nor subjects were physically regrouped for

treatment. The data for the direct, indirect and non-treatment groups are shown in Appendix C.

In order to determine if the direct, indirect and non-treatment groups were equivalent on sight vocabulary, sex, dependency and independency, the data in Appendix C was subjected to statistical analysis. An analysis of variance statistical procedure was used to analyze data and determine equivalency of groups on the dependent variable and a Chi-Square analysis of data were used to determine equivalency on the context variables (Nie, Hadle, Jenkins, Steinbrenner and Bent, 1975, and Ferguson, 1976). The data in Tables 1 through 5 in Chapter IV demonstrated that the direct, indirect and non-treatment groups were equivalent on the criterion variable sight vocabulary and the context variables sex, dependency and independency. The treatment groups were shown to be equivalent, but the groups could not be considered either random nor stratified since all first grade children did not have an opportunity to be selected.

The Treatment

An item analysis was conducted on the subjects in the statistical groups in order to determine the most frequently missed words on The Basic Sight Word Test. From this analysis the twenty most frequently missed sight words were selected as treatment words in the study. The treatment words were scheduled and taught five words per

session with the four selected intact classes receiving four treatment sessions. The treatment words were randomly sorted into four groups with five words per group. The treatment words and their grouping and presentation order are provided in Appendix D.

Pilot direct and indirect lessons were conducted by the experimenter on non-sample classes using non-treatment words. Pilot lessons were used to develop semiscripted lessons and to refine the proficiency of the investigator in implementing direct and indirect sight vocabulary lessons. Sample semiscripted lesson plans for a direct and an indirect exercise are provided in Appendix E.

From February 1 to February 6, 1979 separate treatments were administered to Intact Classes A, B, G, and I as per the treatment schedule in Appendix F. The classes were not physically regrouped for treatment. Intact Classes A and I each received four one-half hour direct treatment sessions, and Intact Classes B and G received four one-half hour indirect treatment sessions. Eight vocabulary exercises were taught using a direct teaching method, and eight vocabulary exercises were taught using an indirect teaching method.

The difference in lessons consisted of the investigator using a direct teaching method to teach Intact Classes A and I and an indirect teaching method to teach Intact Classes B and G.

Flanders' System of Interaction Analysis Categories (FIAC) (Flanders, et al., 1974) was used to plan and verify direct and

indirect teaching methods. FIAC is a ten-category verbal interaction system. The first seven categories, accepting feeling, praising and encouraging, accepting or using student ideas, asking questions, lecturing, giving directions and criticizing or justifying authority, are verbal statements by the teacher. The next two categories, student talk in response to the teacher and student initiated talk, are verbal statements by students. Category ten is silence or confusion. Categories 1, 2 and 3 are teacher talk which responds to pupils. Categories 5, 6 and 7 are teacher initiated talk. A recorder codes classroom verbal behavior every three seconds or whenever the category changes and obtains mutually exclusive data which is analyzed and summarized. A copy of the system is shown in Appendix I. For a more detailed procedure on observing, recording and analyzing the data the reader is referred to Amidon and Flanders (1963) and Flanders, et al., (1974). The FIAC data is presented in Table form in Chapter IV.

Methods of Collecting Data

On January 3, 1979, one hundred eighty-eight pupils from nine intact classes were administered The Basic Sight Word Test, classified according to sex, and rated by their teachers on dependency using Beller's Child Dependency on Adults Scale, and independency using Beller's Scale of Independency or Autonomy Among Children.

