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THE EFFECTS OF STUDENT DECISION MAKING UPON SPELLING ACHIEVEMENT AND ATTITUDE TOWARD THE SPELLING CURRICULUM

by

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Dissertation submitted to the Faculty of the Graduate School
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APPROVAL SHEET

Title of Thesis: THE EFFECTS OF STUDENT DECISION MAKING UPON SPELLING ACHIEVEMENT AND ATTITUDE TOWARD THE SPELLING CURRICULUM

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ABSTRACT

Title of Thesis: THE EFFECTS OF STUDENT DECISION MAKING UPON SPELLING ACHIEVEMENT AND ATTITUDE TOWARD THE SPELLING CURRICULUM

Linda Buchanan Gambrell, Doctor of Philosophy, 1973

Thesis directed by: Dr. Robert M. Wilson

The primary purpose of this study was to determine whether spelling achievement and attitude toward the spelling curriculum differ under three different approaches to decision making in the spelling curriculum. The three different approaches to decision making were: (1) teacher decision making (T_1), (2) combination teacher and student decision making (T_2), and (3) student decision making (T_3). With respect to the three different approaches to decision making, the second purpose of the study was to determine whether spelling achievement and attitude toward spelling were differentially affected by grade level.

The population was forty volunteer teachers and their classrooms in Prince Georges County, Maryland. Each third, fourth, and fifth grade classroom was randomly assigned to one of the three treatment groups. In T_1 the teacher made decisions for students concerning the spelling content and spelling study methods, in T_2 the students made decisions concerning the spelling content and the teacher

made decisions concerning study methods, and in T_3 the students made decisions concerning both the content and study methods related to the spelling curriculum. In this study student decision making was implemented through the use of a contracting procedure.

Data for this study consisted of four scores for each student: (1) Spelling Achievement Test (pretest), (2) Spelling Achievement Test (post-test), (3) tabulation of total number of words spelled correctly on weekly spelling tests, and (4) Spelling Attitude Scale. Classroom mean scores provided the basic data for analysis. The data were analyzed by means of analysis of variance and covariance procedures employing a 3 x 3 factorial design.

The following conclusions were supported: (1) There is no difference in spelling achievement under (a) teacher decision making (T_1), (b) combination teacher and student decision making (T_2), and (c) student decision making (T_3). (2) There is no interaction effect between the different degrees of student decision making and grade levels on spelling achievement. (3) There is no difference in attitude toward the spelling curriculum under the three different degrees of student decision making. (4) There is no interaction effect between the different degrees of student decision making and grade levels in attitude toward the spelling curriculum.

The following implication for theory was suggested by this investigation: Student decision making appears

to result in student achievement and attitude that is equivalent to that under teacher decision making in the spelling curriculum. Students appear to be effective in determining content and study methods in the spelling curriculum. Theories of decision making must be developed which deal with decision making as it relates to the learning process.

The data suggest the following implications for teaching: (1) In learning situations where students can be involved in curriculum decision making, they may learn as willingly and satisfactorily as under teacher decision making. (2) Contracting is an effective and practical technique for individualizing instruction and incorporating student decision making in the spelling curriculum.

Implications for research as suggested by this investigation include the following: (1) There is a need to investigate the effects of student decision making upon achievement and attitude by (a) using more broadly representative samples of students, (b) looking at effects over a longer period of time, (c) using different testing instruments, or (d) implementing student decision making in other areas of the curriculum. (2) Student decision making effects might be interwoven with the quality of the negotiation between the teacher and the student, especially with respect to the provisions for commitment, success, and feedback concerning growth in decision making. An in depth analysis of the negotiation interaction might

provide useful information concerning the effectiveness of specific aspects of the negotiation procedure. (3) An in depth analysis which would compare the achievement and attitude of individual students under different degrees of student decision making may reveal information concerning the most effective decision making situation for the individual student.

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Appreciation is extended to the Prince Georges County Board of Education for permission to conduct this investigation in nine elementary schools in Prince Georges County. A sincere thank you to the principals, teachers, and students who so willingly ccoperated in the execution of the study.

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CHAPTER I

INTRODUCTION

> The schools must show the young person that individual freedom is won by constantly taking on greater responsibility as judgment and wisdom mature. But it cannot succeed in this attempt if the individual is convinced that his actions and decisions are impotent.[1]

Rationale for the Study

Decision making, responsibility, and self-direction are currently being recognized as urgent priorities in the curriculum.[2,3,4] Combs has suggested that these priorities be given a place of greater concern than subject matter.[5] If we are to produce citizens capable of self-direction and responsibility, it seems clear that schools must provide opportunities for students to make decisions concerning their own learning. The focus of this study is upon the educational implications of student decision making in the

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[1] Paul Nash, Authority and Freedom in Education: An Introduction to the Philosophy of Education (New York: John Wiley and Sons, Inc., 1966), p. 237.

[2] Louise Berman, New Priorities in the Curriculum (Columbus, Ohio: Charles E. Merrill Publishing Company, 1968), p. 102.

[3] Arthur Combs, "Fostering Self-Direction," in The Helping Relationship Sourcebook, eds. Donald L. Avila et al. (Boston: Allyn and Bacon, Inc., 1966), p. 246.

[4] Nash, Authority and Freedom in Education, p. 246.

[5] Combs, "Fostering Self-Direction," p. 246.

spelling curriculum.

While the importance of student decision making in the curriculum has been given recognition in several theoretical propositions, empirical support for this phenomenon must be derived essentially from peripheral areas such as psychological studies of decision making in laboratory experiments. Few empirical studies were found which attempt to assess student decision making in the natural setting of the elementary school. Yet, the effects of student decision making upon achievement and attitude toward learning would seem to be of particular concern to educators seeking to provide educational experiences to meet the individual needs of the learner.

The concept of meeting individual needs has long been accepted in theory but with infrequent application in the classroom.[6,7] Educators insist that one of the most pressing needs in education today is the adaptation of instruction to the individual characteristics and backgrounds of the students.[8] This need is even more pressing than it

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[6]Gertrude A. Boyd and Gene E. Talbert, Spelling in the Elementary School (Ohio: Charles E. Merrill Publishing Company, 1971), p. 76.

[7]Ann Pollard Williamson, "Personalized Reading Progress--Multi-Aged Nongrading," in Meeting Individual Needs in Reading, ed. by Helen K. Smith (Newark: International Reading Association, 1971), p. 36.

[8]Robert Glaser and John Bolvin, "Developmental Aspects of Individually Prescribed Instruction," Audio Visual Instruction, XIII, (October, 1968), p. 828.

was forty-seven years ago when a publication of the National Society for the Study of Education pointed out: "It has become . . . absurd to expect to achieve uniform results from uniform assignments made to a class of widely differing individuals. Throughout the educational world there has therefore awakened a desire to find some way of adapting schools to the differing individuals who attend them."[9]

Few question that more effective individualized instruction is essential for promoting the development of well-trained, able citizens capable of functioning in our increasingly complex society. It has been proposed, however, that the goal of individualization cannot be achieved in " . . . autocratic atmospheres where all decisions are made by the teachers and administrators while students are reduced to passive followers of the established patterns."[10] It is evident that the optimal development of the individual will require active participation in decision making concerning the learning process.

Decision making is learned. It must be fostered through experiences involving responsibility and self-direction.[11,12] Nash stated, "It is foolish to expect a

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[9]Carleton Washburne, "Adapting the Schools to Individual Differences," Yearbook of the National Society for the Study of Education, XXIV, Part II, 1925, p. x.

[10]Combs, "Fostering Self-Direction," p. 244.

[11]Berman, New Priorities in the Curriculum, p. 105.

[12]Combs, "Fostering Self-Direction," p. 247.

young person to make wise decisions . . . if his school experiences have not given him the opportunity to make all sorts of decisions."[13]

One procedure which has been used to provide for student decision making in the curriculum is commonly referred to as contracting. The underlying principle of contracting " . . . is that children can learn more willingly and satisfactorily if the framework within which the learning takes place has been mutually agreed upon between teacher and student."[14] In contracting, the student is accepted as a valuable and worthy participant in the decision making concerning the learning to be accomplished. Contracting has been found to be an applicable and appropriate classroom procedure for individualized instruction.[15,16]

The following decision making dimensions are incorporated in contracting:

1. Students are given direct experiences in making decisions concerning the learning to be accomplished.
2. Students are given assistance in bringing to the level of awareness some of the factors that enter

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[13]Nash, Authority and Freedom in Education, p. 32.

[14]Lloyd Homme, How to Use Contingency Contracting in the Classroom (Champaign, Illinois: Research Press, 1969), p. ix.

[15]Thowald Esbenson, "Student Learning Contracts: The Duluth Model," Education Screen Audio Visual Guide, XXXXVIII (January, 1969), p. 17.

[16]Jerry J. Herman, "Individualize Your Instruction by Contract Teaching," Clearing House, XXXVII (May, 1963), p. 554.

into the decision making process such as the utilization of data in making decisions and the responsibility for decisions that are made.

3. Students are provided with decision making opportunities which illustrate the relationship between goals, action, and decision.[17]

Educators are urging inclusion of student decision making opportunities in all areas of the curriculum.[18,19] The spelling curriculum is no exception. Spelling, a basic component of the language arts curriculum, is frequently an area of failure and frustration for students. Research indicates that much of the instruction in spelling is ineffective and that there is no reason for complacency about the present state of spelling instruction.[20,21,22] Traditionally, spelling instruction has been teacher-directed with little or no opportunity for student involvement in decision making.

Berman has predicted that in the future, schools will

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[17]Berman, New Priorities in the Curriculum, pp. 102-103, 111-112.

[18]Ibid., p. 102.

[19]Combs, "Fostering Self-Direction," p. 246.

[20]Dwight L. Arnold, "Spelling Lessons and Ability to Spell," Elementary School Journal, XXXXII (September, 1941).

[21]Andrew M. Doyle, "A Study of Spelling Achievement," Catholic Educational Review, XXXXVIII (January, 1950).

[22]Boyd, Spelling in the Elementary School, p. 2.

see decision making as a central theme.[23] This assertion is supported by the fact that "most of our energy day after day is used in decision making."[24] Most schools, however, do not deal in a systematic way with this important human function. It is, except in the most unusual circumstances, left to chance. Berman revealed that "an examination of most curriculum materials . . . indicates that scant, if any, attention is given to the direct teaching of the decision making process or any of its components."[25] It cannot be taken for granted that children will automatically become good decision makers. If children do not have opportunities to begin to make decisions, they may reach adulthood with inadequate resources to make the vital decisions of life.[26,27]

It has been asserted that schools which do not produce self-directed students have failed everyone--the student, the profession, and the society they are designed to serve.[28] The evidence suggests that it is imperative that we, as educators, "hold the goal of self-direction clear in our thinking and high in our values whenever we are engaged in

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[23]Berman, New Priorities in the Curriculum, p. 114.

[24]Thomas A. Harris, I'm OK--You're OK: A Practical Guide to Transactional Analysis (New York: Harper and Row Publishers, 1967), p. 54.

[25]Berman, New Priorities in the Curriculum, p. 111.

[26]Nash, Authority and Freedom in Education, p. 237.

[27]Berman, New Priorities in the Curriculum, p. 102.

[28]Combs, "Fostering Self-Direction," p. 244.

planning or teaching of any kind."[29] Therefore, there exists a critical need for the school to give planned attention to the decision making process.[30]

Purposes of the Study

The purpose of this study was to investigate whether student decision making opportunities in the spelling curriculum affect spelling achievement and attitude toward spelling instruction. This study was designed to gain insight into some of the components of decision making which should have a place in the curriculum. Specifically, the primary purpose of this research was to determine whether spelling achievement and attitude toward spelling differ under three different approaches to decision making in the spelling curriculum. The three different approaches to decision making were: (1) teacher decision making, (2) combination teacher decision making and student decision making, and (3) student decision making. In this study student decision making was implemented through the use of a contracting procedure. With respect to the three approaches to decision making, the second purpose of the study was to determine whether spelling achievement and attitude toward spelling were differentially affected by grade level.

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[29] Ibid., p. 246.

[30] Berman, New Priorities in the Curriculum, p. 102.

Statement of the Problem

What is the relationship between student decision making in the spelling curriculum and spelling achievement? What is the relationship between student decision making in the spelling curriculum and attitude toward the spelling curriculum?

More specifically, this investigation explored the relationship between three different approaches to the spelling curriculum: (1) teacher decision making, (2) combination teacher and student decision making, and (3) student decision making and spelling achievement and attitude toward the spelling curriculum. The aspects of spelling achievement which were investigated included: (1) spelling achievement test performance; and (2) total number of words correctly spelled on weekly tests over a twelve week period. A spelling attitude scale was employed to determine attitude toward the spelling curriculum. Spelling achievement and attitude toward the spelling curriculum were investigated for third, fourth, and fifth grade classrooms.

Research Questions

From the theoretical formulations and empirical studies relating to student decision making, the following research questions were formulated for study:

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1. Is spelling achievement affected by the degree of student decision making in the spelling curriculum?
2. Is spelling achievement differentially affected by grade level with respect to the degree of student decision making in the spelling curriculum?
3. Is attitude toward the spelling curriculum affected by the degree of student decision making in the spelling curriculum?
4. Is attitude toward the spelling curriculum differentially affected by grade level with respect to the degree of student decision making in the spelling curriculum?

Definition of Terms

The definitions and explanations below are presented to clarify terminology used in this investigation.

Approach to spelling instruction - This phrase refers to the procedures used for spelling instruction. In this study three different approaches to spelling instruction were employed:

1. Teacher decision making (Treatment Group 1 - the teacher assigned all spelling words for study and directed the spelling instruction according to specified procedures in The Follett Spelling

Program[31] manual.

2. Combination teacher decision making and student decision making (Treatment Group 2) - the procedure in which the student determined, with the approval of the teacher, the number of words and specific words to be studied. The teacher directed the spelling instruction according to the specified procedures in The Follett Spelling Program[32] manual.

3. Student decision making (Treatment Group 3) - the procedure in which the student determines, with the approval of the teacher, the number of words, specific words, and the method of study to be used for learning the spelling words.

Contracting - The term, contracting, as employed in this study refers to the procedure whereby the learning to take place is mutually agreed upon between the teacher and the student. The student develops a contract describing the learning he is to achieve. He and the teacher negotiate this contract, and when it meets the satisfaction of both parties, it is signed. In the contracting procedure, the student is a partner in curriculum decision making. For the purposes of this study, contracting was implemented in Treatment Groups 2 and 3. In Treatment Group 2 the students contracted with the teacher

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[31]Morton Botel, Cora Holsclaw, Gloria Cammarota, and Aileen Brothers, The Follett Spelling Program, (Chicago: Follett Educational Corporation, 1969).

[32]Ibid.

for: (1) the number of words to be learned each week; and (2) the specific words to be learned each week. In Treatment Group 3 the students contracted with the teacher for: (1) the number of words to be learned each week; (2) the specific words to be learned each week; and (3) the method of study to be used to learn these words.

Low spelling achievement group - This phrase refers to the spelling achievement group in each classroom which scored below 85% on The Follett Spelling Program Placement Test.[33]

High spelling achievement group - This phrase refers to the spelling achievement group in each classroom which scored 85% or better on The Follett Spelling Program Placement Test.[34]

Pupil selected and directed spelling study - This phrase refers to the procedure whereby the student selects and self-directs the method of study for the weekly spelling words.

Teacher directed spelling study - This phrase refers to the procedure whereby the classroom teacher directs spelling study according to the procedures in The Follett Spelling Program manual.[35]

Other terms which are deemed ambiguous or which are employed in a highly specific way will be defined throughout the study.

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[33] Ibid.

[34] Ibid.

[35] Ibid.

Limitations of the Study

The population from which the sample was drawn imposed geographical and grade level limitations upon the generalizability of the study. The population was limited to third, fourth, and fifth grade students and teachers in Prince Georges County, Maryland. An additional limitation was imposed in that only teachers who volunteered to participate in an experimental investigation were involved in the study.

Another important limitation of this study arose from the fact that participation in this investigation was limited to classrooms using The Follett Spelling Program. Whether or not the finding of this study will generalize to other spelling programs or other subject areas was not determined in this study.

Instrumentation imposed a third limitation upon the investigation. The identification of children who were spelling at or above grade level and below grade level depended upon the extent to which The Follett Spelling Program Placement Test[36] accurately indicated the spelling achievement of the students in the population.

The degree to which teachers implemented the procedures specified for each treatment group imposed additional limitations upon the investigation.

Summary

Perhaps the single most important step that teachers

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[36] Ibid.

can take in the classroom is to provide an educational atmosphere which calls for student involvement and student decision making. Basic to an analysis of the relationship among student decision making, achievement, and attitude toward learning is the number and quality of decision making opportunities available to the student. This investigation explores the relationship between student decision making and spelling achievement and the relationship between student decision making and attitude toward the spelling curriculum.

This chapter focused upon an introduction to the problem under investigation, including an explanation of the rationale for the study and a statement of the research questions. This chapter also included definition of terms and limitations of the study.

Chapter II presents a review of the literature related to this study. This review of the literature provides the theoretical propositions and empirical studies relevant to decision making in the curriculum. Also this chapter includes a review of the literature on contracting, an individualized teaching technique based on student decision making, and a brief overview of the present state of affairs in the spelling curriculum.

Chapter III presents methodology used in the study, including research design, description of the population, instrumentation, experimental procedures, and methods of data analysis.

Interpretation of data and presentation of findings

appear in Chapter IV.

A summary of the investigation is made in Chapter V along with conclusions and implications for theory, practice, and future research.

CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature was undertaken to provide the theoretical and empirical basis from which the hypotheses of the present study were generated. Specifically, the purposes of this review were, first, to examine both theoretical propositions and empirical studies relevant to student decision making in the curriculum; second, to review the literature pertaining to contracting as a technique of instruction which is based primarily on student decision making; and third, to determine the present state of spelling instruction in the elementary schools.

Decision Making In the Curriculum

Several theoretical positions dealing with decision making have been formulated in the areas of psychology and philosophy. For empirical support for student decision making in the curriculum, it becomes necessary to explore research in the peripheral area of psychology. This portion of the review will summarize several theoretical positions and concepts relevant to the effects of student decision making in the curriculum and will examine several related

empirical studies.

Theoretical Constructs

Perhaps the theoretical position most widely held by educators, psychologists, and philosophers which incorporates student decision making is that learning is a personal matter, individual and unique. Therefore, learning is not controlled by the teacher and can only be accomplished with the cooperation and involvement of the student.[37]

Scobey and Graham asserted that schools must find more effective ways to induce students to take a major responsibility for their own learning. They maintained that only through allowing students direct experiences with decision making can our schools become more relevant to the needs and experiences of the students.[38] Consistent with Scobey and Graham's position, Combs asserted that there is "no alternative to fuller acceptance of students into partnership in the educational endeavor. Our modern goal for education, 'the optimal development of the individual,' cannot be achieved without this. Such an aim requires participation of the student and his wholehearted cooperation in the process."[39] This is not likely to be accomplished, Combs maintained, unless students have the feeling they matter and that their decisions

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[37]Combs, "Fostering Self-Direction," p. 245.

[38]Arthur Combs, "An Educational Imperative: The Human Dimension," in To Nurture Humaness, eds. Mary M. Scobey and Grace Graham (Washington, D. C.: Association for Supervision and Curriculum Development, 1970), p. 185.

[39]Combs, "Fostering Self-Direction," p. 248.

count. Perhaps the most meaningful educational experiences that can be provided for students involve participation in the decisions concerning their own learning.[40]

Even more important, perhaps, is the contention that individuals cannot learn to make decisions well except by practice in decision making. Nash stated, "It is foolish to expect a young person to make wise decisions . . . if his school experiences have not given him the opportunity to make all sorts of decisions."[41]

Decision making ability is directly related to the independence of the individual. It is frequently stated in the educational literature that the ultimate goal of education is to produce self-directing or independent individuals.[42,43,44] Maslow's theory of human motivation supports this goal of education. He identified independence as one of the basic needs for self-esteem.[45] Later, Maslow included independence as one of the essential factors in his concept of the self-actualizing individual.[46]

Perhaps the most formalized theoretical position with

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[40] Ibid., p. 248.

[41] Nash, Authority and Freedom in Education, pp. 231-232.

[42] Combs, "Fostering Self-Direction," pp. 244-249.

[43] Berman, New Priorities in the Curriculum, pp. 101-116.

[44] Nash, Authority and Freedom in Education, pp. 211-244.

[45] Abraham H. Maslow, "A Theory of Human Motivation," Psychological Review, 50 (July, 1943), pp. 370-96.

[46] Abraham H. Maslow, Toward A Psychology of Being (New York: Van Nostrand Reinhold Company, 1968), pp. 34-35.

implications for student decision making is that of cognitive field theory. Combs, Snygg, Festinger, Rogers, and Taba have contributed to the development of cognitive field theories of learning.[47,48,49,50] While the proponents of the cognitive approach differ from one another in minor ways concerning their concept of a cognitive field theory of learning, they have, under the influence of Lewin's field theory, come to fairly close agreement on their model of learning.[51]

The proponents of cognitive field theory of learning postulate that an individual's behavior is always appropriate to his cognitive field. Snygg and Combs defined the phenomenal field as the universe as perceived by the individual, including himself, at the instant of action. They maintained that all behavior is determined by and appropriate to the cognitive field of the individual at that instant.[52] Accordingly, Snygg suggested that the purpose of education is to promote more effective and realistic behavior on the part of the

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[47] Arthur W. Combs and Donald Snygg, Individual Behavior (New York: Harper and Brothers, 1959).

[48] L. A. Festinger, A Theory of Cognitive Dissonance (Stanford, California: Stanford University Press, 1957).

[49] Carl Rogers, Freedom to Learn (Columbus: Charles E. Merrill Publishing Company, 1969).

[50] H. Taba, S. Lewine, and F. E. Freeman, Thinking in Elementary School Children (Cooperative Res. Project No. 1574, U. S. Office of Education), San Francisco State College, 1963.

[51] K. Lewin, Principles of Topological Psychology (New York: McGraw-Hill Book Company, 1936).

[52] Snygg and Combs, Individual Behavior.

individual.[53]

Basic to the cognitive approach is the contention that any concept can only be accepted if it fits the student's own cognitive field. Snygg maintained that, generally speaking, the student will accept into his field anything which fits what he already believes. There are, however, two important qualifications: (1) perception of an object or event must be necessary to the field organization, and (2) assimilation of an object or event involves distortion. Value and meaning are aspects of the object's or event's function in the perceiver's cognitive field at that particular time.[54]

If these contentions are correct, any attempt to make a really significant change in a student's cognitive field by imposing assignments would be foredoomed to failure. Providing students with information would not be sufficient for learning to take place. Learning would necessarily require active involvement of the student. According to cognitive field theory, learning itself is dependent upon the capacity for self-direction and decision making.[55]

Snygg suggests the following implications of cognitive field theory for educators:

Goals. - The goals of learning must be appropriate to

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[53]Donald Snygg, "A Cognitive Field Theory of Learning," in Learning and Mental Health in the Classroom, ed. by Walter B. Waetjen and Robert R. Leeper (Washington, D. C.: Association for Supervision and Curriculum Development, 1966), p. 101.

[54]Ibid., p. 102.

[55]Combs, "Fostering Self-Direction," p. 245.

the present understanding and skill of the student if he is to accept them as personal learning goals to be pursued seriously. Each individual selects his goals from among those that seem valuable and feasible to him. Therefore, different students will have very different goals. Different students with the same goal will interpret any situation differently since they approach it with different cognitive fields.

Action. - Once goals have been formulated it is essential that the schools provide students with opportunities to test their perceptions of reality. The validity of the student's concepts and perceptions can only be tested by acting on them.

Perception of Results. - An act which does not achieve the expected result causes a change in the student's perceptions of the situation only if he is able to see the result of his action.[56] "An act, without knowledge of its results, cannot benefit learning."[57]

These implications for teaching from cognitive field theory point to a need for student decision making in the curriculum. It is through decision making in the learning situation that the student is enabled to perceive the relationship between his goals, actions, and results.

Fundamental to Seigel's theoretical model of decision making is the notion that a person's strategy in making decisions is one which maximizes expected utility. In this

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[56] Snygg, "A Cognitive Field Theory of Learning," pp. 89-90.

[57] Ibid., p. 90.

context utility is understood to refer to the subjective value or intrinsic worth of something to the individual. In his analysis of the utilities inherent in decision making situations, Seigel recognized that a person derives satisfaction from being correct or being successful.[58]

Seigel suggested that Lewinian theory concerning level of aspiration be integrated with decision theory. Level of aspiration refers to the particular achievement goal for which the individual strives. Seigel contended that "the psychological situation established in level of aspiration experiments may profitably be characterized as a decision situation, for from the alternative possible goals the individual must decide for which goal he will strive."[59]

The level of aspiration set by the individual is a function of three factors according to Lewin et al. These three factors are identified as: (1) the seeking of success, (2) the avoiding of failure, and (3) the cognitive factor of making a probability judgement.[60] Each of these three concepts of Lewinian theory can be equated with an equivalent concept in Seigel's decision theory. Success may be thought

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[58]Paul M. Hurst and Sidney Seigel, "Predictions of Decisions from a Higher-Ordered Metric Scale of Utility," in Decision and Choice, ed. by Samuel Messick and Arthur Brayfield (New York: McGraw-Hill Book Company, 1964), pp. 71-72.

[59]Sidney Seigel, "Levels of Aspiration and Decision Making," in Decision and Choice, ed. by Samuel Messick and Arthur Brayfield (New York: McGraw-Hill Book Company, 1964), p. 114.

[60]K. Lewin, Tamara Dembo, L. Festinger, and Pauline S. Sears, "Level of Aspiration," in J. McHint (ed.) Personality and the Behavior Disorders, Vol. 1 (New York: Ronald Press, 1944), pp. 33-378.

of as a utility factor, where utility refers to the subjective value of an entity (goal, action, result). Success, in Lewianian terms, may be thought of in decision theory terms as an achievement having positive utility. Failure may be thought of as having negative utility. The cognitive factor of making a probability judgment refers to the individual's subjective probability of achieving a goal. This last concept, subjective probability, is used consistently in both theoretical constructs.[61]

In view of theories of level of aspiration consistent with decision theory, Seigel hypothesized that given decision making opportunities the individual will make decisions which will maximize his chances of success. Based on research to date, Child and Whitney, have formulated five generalizations concerning level of aspiration:

1. Success generally leads to a raising of the level of aspiration, and failure to a lowering.
2. The stronger the success, the greater is the probability of a rise in level of aspiration; the stronger the failure, the greater the probability of a lowering.
3. Shifts in level of aspiration are in part a function of changes in the subject's confidence in his ability to attain goals.
4. Failure is more likely than success to lead to

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[61]Seigel, "Levels of Aspiration and Decision Making," p. 114.

withdrawal in the form of avoiding to set a level of aspiration.

5. Effects of a failure on level of aspiration are more varied than those of success.[62]

Seigel has suggested that each of these generalizations be treated as hypotheses to be tested in experimentation employing the decision theory approach.[63] Each of these generalizations holds profound implications for teachers concerning student involvement in decision making in the curriculum.

Empirical Studies

In spite of well formulated theoretical positions incorporating decision making, few empirical studies were found which bear directly on the effects of student decision making in the curriculum. It was necessary, therefore, in seeking empirical support for these positions, to draw from several areas which, though somewhat peripheral, were nevertheless deemed relevant.

Central to most theoretical formulations of the decision making process is the concept of commitment. The concept of decision making has traditionally been linked to

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[62] I. L. Child and J. W. M. Whiting, "Determinants of Level of Aspiration: Evidence from Everyday Life," in The Study of Personality, ed. by H. Beanel (New York: John Wiley and Sons, Inc., 1954), pp. 495-508, p. 508.

[63] Seigel, "Levels of Aspiration and Decision Making," p. 193.

an action which is socially defined as commitment.[64] Dissonance theorists have also emphasized the role of commitment in attitude and decision dynamics.[65,66] Mann reported a study in which the effect of a commitment warning on the decision making behavior of pre-school children was investigated. He tested the hypothesis that a commitment warning (admonition that a decision will be binding) would influence decision making behavior on immediate and on unrelated decisions. In this investigation subjects in the commitment warning group, in comparison with the non-commitment warning group, took longer to announce their choice of a gift toy and showed greater willingness to make decisions on unrelated problems. This data suggested that a commitment warning is capable of eliciting more mature responses in decision making situations even in young children. The evidence suggested that a commitment warning initiates a psychological set which leads children to approach decision making situations carefully and decisively.[67]

Seigel conducted several investigations to support his theoretical model of decision making and the hypothesis

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[64] K. Lewin, Field Theory in Social Science (New York: Harper, 1951).

[65] J. W. Brehn and A. R. Cohen, Explorations in Cognitive Dissonance (New York: Wiley Publishers, 1962).

[66] L. Festinger, Conflict, Decision and Dissonance (Stanford: Stanford University Press, 1964).

[67] Leon Mann, "Effects of a Commitment Warning on Children's Decision Behavior," Journal of Personality and Social Psychology, Vol. XVII (June, 1971), pp. 74-80.

that an individual will make decisions so as to maximize expected utility. In one experiment Federal prisoners served as subjects, and cigarettes were the commodity. In this study the hypothesis was supported that the individual's strategy in making choices (the proportinate distribution of his choices over the alternatives open to him) was one which maximized expected utility. The hypothesis was confirmed at the $P < .025$ level.[68] In a later study Seigel and Goldstein reported additional evidence which supported the decision making model as a predictive statement concerning decision making.[69]

Seigel and Becker presented evidence to support the assertion that an individual's level of aspiration is associated with his expected utility or subjective value of a goal. The goals studied in this research were various possible midterm grades in an introductory statistics course. The student volunteers' utility scales of these grades were determined through an elaborate procedure involving gambling with their instructor for a grade in the course. The evidence adduced in this research was direct behavioral confirmation of the validity of the definition of level of aspiration as a point on the individual's scale of utility of goals on an

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[68]Hurst and Seigel, "Prediction of Decisions from a Higher Ordered Metric Scale of Utility," pp. 71-82.

[69]Sidney Seigel and Donald Aaron Goldstein, "Decision Making In a Two-Choice Uncertain Outcome Situation," in Decision and Choice, ed. by Samuel Messick and Arthur Brayfield (New York: McGraw-Hill Book Company, 1964), pp. 161-169.

achievement test.[70]

In his studies on a student-controlled instruction, Mager questioned the assumption that the teacher is the best predictor of the most desirable learning sequence for the student. Several of his studies demonstrate that adult learners, when given control of their curriculum, tend to be able to direct their learning activities in a way that will lead to the achievement of specified objectives. In one study adults were studying electronics. One group was learner-directed while the other group was teacher-directed. Each subject was treated independently and took part in seven instructional sessions that lasted sixty-five minutes on the average. The instructor's role in the experimental group was merely to respond to the questions and requests of the students. Some interesting findings emerged from this study. Mager reported that subject matter commonality in the learner-directed sequences were greatest at the onset of instruction, but as instruction progressed the learners moved into their own areas of special interest. The teacher-directed sequences began with an entirely different topic than did the learner-directed sequences. This study suggested that the most meaningful decisions concerning instructional content and sequencing are perhaps made by the learner rather than by the teacher. The data also suggested that the learner's

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[70]Selwyn W. Becker and Sidney Seigel, "Utility of Grades: Level of Aspiration in a Decision Theory-Context," in Decision and Choice ed. by Samuel Messick and Arthur Brayfield (New York: McGraw-Hill Book Company, 1964), pp. 127-134.

motivation increased as a function of his control over the learning situation.[71]

A later study by Mager also investigated content sequencing. The skill of electrical meter reading was used as the vehicle for the investigation. The experimenter determined empirically the meter reading skill of the subjects at the beginning of the experiment. Mager reported that no matter how ignorant the learners appeared to be, no matter how slowly they appeared to learn, no matter how naive they claimed to be, all subjects entered the experiment with some relevant knowledge. The general conclusion drawn from this study was that adult students are likely to enter a learning situation with a significant amount of relevant knowledge.[72] Mager quickly admits that this is already a well known fact. However, the implications of such a conclusion are profound. This evidence supports the contention that perhaps the learner himself can make more appropriate decisions than the teacher concerning his curriculum needs. Given half a chance, and a set of reasonable objectives, Mager contended that the learner will probably generate for himself a curriculum that will lead him to achieve these objectives.[73]

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[71]Robert F. Mager, "On the Sequencing of Instructional Content," Psychological Report, 1961, 9, pp. 405-413.

[72]Robert F. Mager and Cecil Clark, "Explorations in Student-Controlled Instruction," Psychological Report, August, 1963, Vol. XIII, No. 1, p. 76.

[73]Robert F. Mager and J. McCann, Learner Controlled Instruction (Palo Alto: Varian Associates, 1961).

Coleman has presented evidence to support student decision making in the curriculum. He stated," . . . a pupil attitude factor, which appears to have a stronger relationship to achievement than do all the 'school' factors together, is the extent to which an individual feels that he has some control over his own destiny."[74] The data related to this attitude showed that when students had the conviction that they could affect their own environments, their achievement was higher than those who lacked that conviction. The findings of this study also suggested that such attitudes may be directly related to the student's school experiences.[75]

Summary

Several formal theoretical positions incorporate the decision making process as a vital component. There is substantial evidence to support the theory of decision making strategy as one which maximizes expected utility. There is also some evidence to support the contention that the concept of level of aspiration is associated with expected utility and that level of aspiration can be viewed in terms of decision making situations.

Cognitive field theory is perhaps the most formalized theoretical position which deals with student decision making related to the learning situation. Learning itself, according to cognitive field theory, is dependent upon the capacity of

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[74]James Coleman, Equality of Educational Opportunity (Washington, D. C.: Office of Education, 1966), p. 23.

[75]Ibid., p. 23.

the student for decision making.

Few empirical studies were found directly related to student decision making in the curriculum. Empirical support for theoretical positions on decision making was found for pre-school and adult subjects. No studies were found which dealt directly with children in the school setting. The phenomenon of student decision making in the form of learned-directed instruction and the potential for such procedures has received confirmation in numerous studies. Most notably, studies on student-controlled instruction have confirmed the positive effects of learner-directed instruction. Interestingly, additional evidence suggested that the learner's motivation increased as a function of his control over the learning situation.

Contracting - An Individualized Teaching Technique Based on Student Decision Making

In the preceding section of this review of the literature, several theoretical propositions and empirical studies were summarized which incorporate decision making as a dynamic aspect of the learning process. Contracting, as an individualized teaching technique, is based on student decision making in the curriculum. The literature on individualization is extensive, but there is little information available on the specific technique of contracting.

This review of the literature will briefly review the historical perspective of individualized instruction, and examine specific components of contracting which are

supported by previously cited theoretical constructs and empirical evidence.

Historical Perspective

Few educators would question that more effective individualized instruction is essential for the development of the well-trained, able citizen being demanded for our increasingly complex society. Research has produced evidence that instruction becomes more effective as it is more adequately adjusted to the child's level of achievement.[76] Educators insist that one of the most pressing needs in education today is the adaptation of instruction to the individual's characteristics and background.[77] The concept of meeting individual needs has long been accepted in theory. However, evidence to date suggests that there has been infrequent application of individualized instructional procedures in the classroom.[78]

In the United States the first strong interest in individual differences was brought about by the testing movement of 1910. With the advent of newly developed achievement tests, a fundamental truth became apparent--there were wide individual differences in the achievement of

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[76]Daisy M. Jones, "An Experiment in Adaptation to Individualized Differences," Journal of Educational Psychology, XXXIX (October, 1948), pp. 257-272.

[77]Glaser and Bolwin, "Developmental Aspects of Individually Prescribed Instruction," p. 828.

[78]Williamson, "Personalized Reading Progress--Multi-Aged Nongrading," p. 36.

children in the same grade and in the same classroom. Educators experimented with a variety of adjustments in classroom organization and instruction designed to cope with this newly revealed variation in the learning rate of children. Various plans were patterned after the Winnetka and the Dalton plans, both of which provided for individual progress made possible by assignments in which the child worked through subject matter material that increased in small increments of difficulty.[79]

The present concept of individualization is different from the individualized instruction that was popular in the 1920's. Smith stated, "Newer philosophies and psychologies that emphasize the individual, accumulations of scientific data about individual differences . . . have combined to awaken our slumbering complacency in regard to the needs and capacities of individual children."[80] The present concept of individualization is oriented toward child psychology, utilizing particularly Olsen's theory of seeking, self-selection and self-pacing.[81] Thus, the child is involved in curriculum decisions concerning the goals, processes, and results of his learning.

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[79]Nila B. Smith, "Individualized Instruction: Concepts Old and New," Education (May, 1961), pp. 527-529.

[80]Ibid., p. 528.

[81]Willard C. Olson, Child Development (Boston: Heath Publishing Company, 1959).

Rationale for Individualized Instruction

There have been numerous attempts to assess the effectiveness of individualized instruction. Chall and Sartain reported that research on individualized programs has generally been weak and inconclusive.[82,83] Davis and Lucas contended, however, that almost every educational change, innovation, and proposed experimentation is defended on the basis that it will lead to greater individualization of instruction.[84] Trusty has suggested that the rationale for individualized instruction might best be approached through examination of basic principles of learning rather than through existing research.[85] The following principles of learning, which suggest a need for individualized instruction, are supported by numerous authorities:

Children learn best in an accepting learning environment. Esbensen suggested that, "Learning is aided when instruction takes account of each pupil's particular set of abilities, needs and interests--including his way of responding to different modes of instruction."[86] Lindberg and Moffett

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[82]Jeanne Chall, Learning to Read: The Great Debate (New York: McGraw-Hill Book Company, 1967).

[83]Harry W. Sartain, "What are the Advantages and Disadvantages of Individualized Instruction?" in Nila B. Smith (ed.), Current Issues in Reading (Newark: International Reading Association), pp. 328-339.

[84]Floyd Davis and James Lucas, "An Experiment in Individualized Reading," The Reading Teacher, XXIV (May, 1971), pp. 737-743.

[85]Kay Trusty, "Principles of Learning and Individualized Reading," The Reading Teacher, XXIV (May, 1971), pp. 730-736.

[86]Esbensen, "Student Learning Contracts: The Duluth Model," p. 17.

maintained, " . . . we must be certain that whatever we do is based on the premise that each child is unique. Not only does he learn at his own rate but, he learns in his own special way. Since his background is different from that of any other child, he will approach learning in a manner that is unique to him."[87] Psychological research has, according to Carmichael and Turney, presented convincing evidence that "intellectual growth will not only cease, but that cognitive power will diminish in situations where children are unable to experience the acceptance and understanding of an adult."[88]

Children learn best in a learning environment where success is possible. "We get interested in what we get good at," according to Bruner.[89] In general, it is difficult to sustain interest in an activity unless one achieves some degree of success.[90] Cohen stated, " . . . success feeds on itself and drives the subject to further achievement . . . tolerance for failure is best taught through providing a background of success that compensates for experienced failure."[91]

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[87]Lucile Lindberg and Mary W. Moffett, "What is Individualized Education?" Education Digest, XXX (October, 1964), p. 30.

[88]Bennie Carmichael and David Turney, "Research and Individualization," Educational Leadership, XXVII (November, 1959), p. 99.

[89]Jerome S. Bruner, Toward a Theory of Instruction (New York: W. W. Norton and Company, 1966), p. 118.

[90]Ibid.

[91]Alan S. Cohen, Teach Them All to Read (New York: Random House, 1969), p. 231.

Learning is more meaningful when pupils participate in goal setting, planning, and evaluation of instruction. Esbensen maintained that learning is aided when students have significant opportunities to help choose the goals of instruction and make genuine choices concerning how the goals of instruction may be accomplished.[92] Such decisions should properly involve the student in determining which means may achieve which ends, and how time itself shall be spent in the pursuit of learning. Randolph and Howe stated, "If the teacher and the child share the work and the responsibility for the assessment, then the child feels more in charge of his own self. This, in turn, supports his own concept of the value of himself as an individual with increasing capabilities, achievements, and responsibilities."[93]

These basic principles of learning support the rationale used in implementing individualized instruction in the classroom. The basis of individualization is the attempt to tailor the curriculum to the achievement and rate of development of the individual learner.

While the basic premise and principles of learning underlying the rationale for individualized instruction are appealing, attempts of actual implementation have been meager.[94]

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[92]Esbensen, "Student Learning Contracts: The Duluth Model," p. 17.

[93]Norma Randolph and William Howe, Self-Enhancing Education (Palo Alto: Stanford Press, 1966), p. 45.

[94]Williamson, "Personalized Reading Progress--Multi-Aged Nongrading," p. 36.

Educators, however, have continued to search for ways to provide for the individual differences among children. Some of the attempts at individualization which have been tried, with varying degrees of success, include interest and ability grouping, tutoring, team teaching, programmed instruction, individually prescribed instruction, and contracting.[95]

Contracting for Learning

Herman suggested contracting as a technique to provide for the individual differences of pupils within classrooms. The student in this procedure chose the academic aspiration level at which he hoped to function and determined the learning activities from a list of alternatives provided by the teacher. Herman voiced support of contracting for two reasons: first, it is a structured system requiring the student to achieve within a definite academic range; and second, it allows each pupil to set his own aspirational level.[96]

Wilson has recommended the use of a contracting procedure with students experiencing learning difficulty because it provides the student with the success that is essential in beginning remediation. He suggested that the student and the teacher mutually agree on the learning activities and the quality of the work to be completed. In addition, he suggested that the student should make decisions

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[95] Ibid.

[96] Herman, "Individualize Your Instruction by Contract Teaching," pp. 551-554.

concerning the order in which the learning tasks are to be completed.[97]

Contracting provides for self-selection and self-pacing, according to Wilson and Barnes. They have suggested that each student in the classroom select his own spelling words from the reading and writing he is doing in other areas of the curriculum. The student contracts with the teacher for the number of words he thinks he can learn in a given week. Their suggested procedure includes the following steps: (1) pretest; (2) student formulated contract; (3) teacher-student negotiation for (a) the number of words to be learned in addition to those spelled correctly on the pretest, (b) which words are to be learned, and (c) the study method to be used to learn the spelling words; and (4) spelling post-test.[98] Student record keeping is an important aspect of the contracting procedure. The student and teacher utilize the student's previous achievement records to assure negotiation of a contract which can be met successfully.[99]

Wilson and Gambrell have suggested several instructional procedures which may be essential for the successful implementation of contracting in the classroom:

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[97]Robert M. Wilson, Diagnostic and Remedial Reading (Columbus: Charles E. Merrill Publishing Company, 1972), p. 151.

[98]Robert M. Wilson and Marcia Barnes, "Experimental Programs in an Elementary School Classroom," (paper presented at the Seventeenth Annual Convention of the International Reading Association, Detroit, Michigan, May 11, 1972).

[99]Robert M. Wilson and Linda B. Gambrell, "Decision Making in the Language Arts," (paper presented at the Maryland Reading Institute, October 7, 1972).

Setting Objectives. - Once the teacher sets the broad learning objective, such as the correct spelling of words, the student and the teacher discuss, specify, and agree upon the specific learning objectives. The teacher is vitally important as an advisor, guide, and coordinator, but he is not the sole decision maker. The student's commitment to learning is enhanced since he is actively involved in determining the learning goals.

Gathering Diagnostic Information. - In order to negotiate a reasonable contract, it is essential that both the student and the teacher have some familiarity with the student's strengths and needs in the area to be contracted. This information may come from a pretest, general observation of classroom performance, prior test performance, or other sources of diagnostic information.

Contract Negotiation. - After broad learning objectives have been determined, the student and the teacher negotiate a contract. Students vary in their capacity to plan. Therefore, the teacher has the important educational responsibility of helping students develop this skill.

The student may develop a contract concerning the activities, the amount of time, and the study methods most appropriate to his particular interests and abilities. These specifics are then negotiated with the teacher, and a contract is mutually agreed upon between both parties. The contract may involve negotiation of the following:

1. Activities. - The student may be provided with a list of

alternatives from which he may choose activities appropriate to his interest and abilities. The student and the teacher may negotiate for the particular activities to meet the broad learning objective. The aim would be determination of activities that the student could complete with one hundred per cent success.

2. Pacing. - Contracting allows the student to determine his own learning pace which may differ depending upon: (1) the subject areas, (2) the specific activity required, or (3) the amount of work to be completed. The student and the teacher may negotiate for the amount of time needed to complete a given activity according to the individual characteristics of the student.

3. Study Method. - Students vary in the way they learn. Contracting for study methods permits the student to have a voice in the determination of the most effective methods for study. At times, however, the teacher may need to direct the student to more effective and efficient study methods.

Evaluation. - The student and the teacher should strive to determine the most appropriate evaluation procedure to match the objectives which have been set. Evaluation procedures may include:

1. Pupil-Teacher Conference. - During the pupil-teacher conference, work papers, reports, projects, and other pupil products may be evaluated by both the teacher and the student. Evaluation forms may be used which both parties sign if the agreed upon contract has been fulfilled.

2. Mastery Tests. - Mastery tests may be a useful form of evaluation since, in contracting, the learning activities are often completed without direct teacher supervision.

3. Discussion Groups. - Students may be involved in peer evaluation. Children who have contracted for specific content may get together for discussion groups to determine if their goals have been met.

Reinforcement. - Successful contract completion is rewarding in itself. However, an awareness of progress usually encourages the student to put forth additional efforts and may encourage him to raise his learning goals. There should be some form of recognition, such as a 100% mark on the student's paper for successful completion of a contract.

When contracts are not completed successfully, a pupil-teacher conference will be needed to determine: (1) why the contract was not met, (2) if the contract should be renegotiated, and (3) what can be done to assure successful completion of the next contract.[100]

While there are many variations of contracting as a technique for individualizing instruction, there are basic components which are essential to the contracting procedure. Each of these components, (1) decision making, (2) commitment, and (3) success, can be interpreted in terms of decision theory.

Decision Making. - One of the basic principles underlying contracting is that "students can learn more willingly and

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[100]Robert M. Wilson and Linda B. Gambrell, "Contracting--One Way to Individualize," Elementary English, L (March, 1973), pp. 75-78.

satisfactorily if decisions concerning learning are mutually agreed upon between teacher and student."[101] The student is viewed as an active participant in decision making concerning the goals, processes, and evaluation of the learning to take place. It might be pointed out here that the concept of student decision making through negotiation with the teacher is quite different from that of the progressive education era of the 1930's. This era was characterized by permissiveness, and it was often suggested that the student should learn what he and he alone chose.[102] In the contracting procedure the teacher has the important role of providing the learning framework. The student is provided with decision making opportunities within the confines of the desired educational objective. The teacher's role in the contracting procedure might be defined as neither permissive nor dictatorial but developmental in nature.

The successful negotiation of a learning contract calls for an understanding of the use of data in decision making. The student must have opportunities to make use of relevant data in assessing various courses of action that are consistent with his goals.[103] Thus, the student learns to

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[101]Lloyd Homme, How to Use Contingency Contracting in the Classroom, p. ix.

[102]Ralph Ojemann, "Who Selects the Objectives for Learning and Why?" Elementary School Journal, LXXI (February, 1971), pp. 262-273.

[103]Ralph H. Ojemann, "Self-Guidance as an Educational Goal and the Selection of Objectives," Elementary School Journal, LXXII (February, 1972), p. 255.

use available information to select appropriate learning goals as well as learning experiences that will help him reach his goals.

Commitment. - Students must be provided opportunities to make decisions if commitment to learning is to be developed. Glasser suggested that teachers work out a curriculum plan with students and that they get a commitment from the student. This commitment might be in the form of a written contract. He contended that, "Commitment is what makes the whole thing viable. Commitment is what seals the involvement. Without commitment there is no real involvement."[104] Involvement, Glasser stated, is the basis of motivation. Students who are involved in decision making concerning learning activities become involved and motivated.

It is essential, according to Paul Nash, to illustrate that there is a connection between decision making and responsibility. The student must be shown that he is accountable for his decisions. If responsibility is to be learned, it must be learned through the process of developing commitment.[105] By participating in the decision making process, the student can learn to make reasonable commitments and accept the proper responsibility for the commitments he makes.

Success. - Success is a vital component of the contracting technique. To assure success, learning goals must

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[104]William Glasser, "The Effect of School Failure on the Life of a Child," (Washington, D. C.: National Association of Elementary School Principals, 1971).

[105]Paul Nash, Authority and Freedom in Education, p. 239.

be appropriate to the present skills and understanding of the student. Each individual student should select his goals from among those that seem most valuable and feasible to him. It is deemed crucial that children be placed in learning situations where there is a reasonable chance for success.[106] In contracting, the aim is always to negotiate a contract that can be met by the student with one hundred per cent success.

In contracting, success is a matter of achieving personally reasonable and relevant objectives. Traditional teaching techniques, however, employ normative standards for success reference. By nature, normative standards assure that a certain percentage of the students in any given classroom will not meet success in achieving those standards.[107] According to Pharis et al., any system or teaching technique in which effectiveness is judged by normative standards implicitly rejects the concept of past success as the motivation for future success.[108]

The position that past success is motivation for future success is supported by behavioral psychologists, cognitive psychologists, and learning theorists who have, in essence, stated that "nothing succeeds like success." Pharis et al. have stated that " . . . nothing else causes an individual to see success in the present and in the future

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[106] William Pharis, Lloyd E. Robinson and John C. Walden, Decision Making and Schools for the 70's (Washington, D.C.: National Education Association, 1970), ED 042 732.

[107] Ibid., p. 43.

[108] Ibid., p. 43.

as past success."[109]

Summary

There have been numerous attempts to develop techniques for individualizing instruction for students. Individualization has received, perhaps, more emphasis than any other instructional strategy. Research on individualization has, however, been weak and inconclusive. Therefore, a rationale for individualization was developed from theoretical propositions and through examination of basic principles of learning.

Contracting has been suggested as an appropriate technique for individualizing instruction in the classroom, but there is no available empirical evidence to support the use of this technique. Specific components of contracting: decision making, success, and commitment, have been described which are supported by theoretical propositions and empirical evidence drawn from peripheral areas of investigation.

The Spelling Curriculum

In the preceding sections of this review of the literature, theoretical propositions and empirical studies were summarized which incorporate decision making as a dynamic aspect of the learning process. Contracting, an individualized teaching technique based on student decision making, was also described.

This section of the review of the literature will

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[109] Ibid., p. 43.

focus on the present state of the spelling instruction. Research relating to traditional approaches and concerns about spelling instruction will also be reviewed.

The Place of Spelling in the Curriculum

The ability to spell with confidence eases the task of putting one's thoughts on paper. Spelling competency frees the student to concentrate more fully on organizing his ideas and, most importantly, it increases his capacity for self-expression. Therefore, it becomes increasingly important for students to be able to spell words correctly in written communication.[110]

Despite the attention educators have devoted to the spelling curriculum, complaints concerning the effectiveness of teaching and learning have been consistently voiced. Dissatisfaction with the ability of students to spell continues to be a major educational concern.

Definition of Spelling

Spelling has been defined by Boyd as " . . . the act of naming or writing or printing in the proper order the letters of a word. To be able to spell requires accurate reproduction or recall of the letters in proper order."[111] Boyd has suggested that a good speller: (1) recognizes the

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[110]Boyd and Talbert, Spelling in the Elementary School, p. 3.

[111]Gertrude A. Boyd, Teaching Communication Skills in the Elementary School (New York: Van Nostrand Reinhold Company, 1970), p. 57.

importance of correct spelling, (2) endeavors to spell correctly each word he writes, and (3) is equipped to learn how to spell new words independently. Yet, Boyd stated, many poor spellers seem to exhibit these very qualities.[112] Much research has been done during the past century to find the causes of poor spelling and ways to improve the teaching and learning of spelling.[113,114]

While the ability to spell is generally thought of as the ability to reproduce the correct letter arrangement of words, it is recognized that successful spelling is a complex form of response influenced by many factors. Spelling is affected by "certain physiological traits of the individual . . . various intellectual factors, attitudes toward spelling, methods of studying spelling, speech habits, and a variety of related reading and handwriting skills . . . ."[115]

Instructional Objectives and Curriculum Principles

Brueckner and Bond listed the following as major objectives of instruction in spelling:

1. To teach children how to spell selected words of undoubted social utility.

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[112] Ibid., p. 57.

[113] J. Stephen Sherwin (ed.), Four Problems in Teaching English: A Critique of Research (Scranton: International Textbook Company, 1969), p. 47.

[114] Boyd, Teaching Communication Skills in the Elementary School, p. 57.

[115] Leo J. Brueckner and Guy L. Bond, The Diagnosis and Treatment of Learning Difficulties (New York: Appleton-Century-Crofts, Inc., 1955), p. 346.

2. To help children to develop effective methods of studying new words.
3. To assist children to make efficient use of the dictionary in word study.
4. To develop in children a "spelling conscience," a desire always to use correct forms in spelling and to check spelling in all of their written work.
5. To assist children to extend and enrich their personal writing vocabularies.[116]

The basic principles underlying an effective developmental program most likely to assure spelling proficiency have been summarized by Brueckner and Bond. These basic principles would seem appropriate regardless of the method or procedures used in spelling instruction and seem to be most in agreement with the concept of individualization of instruction:

1. There should be provided a rich functional program in all aspects of the language arts that necessitates the expression of ideas in written form so that a genuine desire to spell correctly in all written expression will be aroused.
2. Learning to spell is a growth process which requires expert guidance. Pupils do not all learn at the same rate and in the same way. Adjustments of curriculum content and methods

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[116] Ibid., pp. 346-347.

of instruction should be made to the learner's level of development.

3. Emphasis should be placed on helping each pupil to discover effective methods of learning how to spell words. These methods may vary from pupil to pupil but should be of demonstrated value as judged by the growing success of the individual in learning to spell.
4. Diagnosis of spelling needs should be continuous and should be participated in by both teacher and pupil. The learner should become conscious of his own spelling problems and be guided in solving them.[117]

Traditional Methods of Instruction

In most classrooms spelling is currently taught in special time periods set aside for that purpose. A spelling textbook largely determines the words to be learned by the students. Some classrooms and schools do not use a textbook but make their own spelling lists; others teach spelling only when children cannot spell a word needed for an immediate purpose. In the former situation incidental instruction is regarded as sufficient to produce proficient spellers. This is in direct contrast to the more prevalent use of a textbook which assumes that children will automatically benefit when

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[117] Ibid., p. 347.

lists of words are presented and taught in spelling lessons.[118]

Principal Study Plans

Historically the two principal plans of study used in the spelling curriculum have been the test-study-test plan and the study-test plan. In the test-study-test plan, the student is tested on the assigned words and then studies the words he misspells. In this approach the student corrects his own spelling pretest. Throughout the week spelling exercises and activities give practice in writing the spelling words.[119]

The study-test plan of instruction is organized in much the same manner. The major difference is that the spelling pretest is eliminated. The student studies all the words on the spelling list for a given week.[120]

Research contrasting the test-study-test versus the study-test method of spelling instruction has been fairly consistent in favor of the test-study-test method. E. E. Keener found that the test-study-test method achieved a 3.5 per cent better result at a twelve per cent saving of time.[121] Concerning immediate recall, Kilzer found the test-study-test method to be superior and urged its adoption because of more

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[118]Boyd, Teaching Communication Skills in the Classroom, p. 61.

[119]Ibid., p. 62.

[120]Ibid., p. 62

[121]E. E. Keener, "Comparison of the Group and Individual Methods of Teaching Spelling," Journal of Educational Method, VI (September, 1926), p. 34.

economic use of time.[122] Gates found that low ability students through grade four fared better when using the study-test method and that brighter students learned more from the test-study-test method.[123] Studies since 1937 have tended to favor the test-study-test plan and serve to buttress the case for the use of the test-study-test method.[124,125,126] Sherwin summarized that when the test-study-test procedure does not fulfill entirely its theoretical promise, then probably explanation can be found in procedural matters concerning the investigations.[127]

List Method Versus Context Method

There has been continued controversy over whether spelling is taught most effectively by the list method or the context method. Typically, the list method of spelling

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[122]L. R. Kilzer, "The Test-Study Method Versus the Study-Test Method in Teaching Spelling," School Review, XXXIV (September, 1926), pp. 523-525.

[123]Arthur Gates, "An Experimental Comparison of the Study-Test and Test-Study Methods in Spelling," Journal of Educational Psychology, XXII (January, 1931), p. 18.

[124]Helen M. Shubik, "An Experimental Comparison of the Test-Study Methods of Teaching Spelling in the Third Grade," Masters' thesis, Fordham University, 1951.

[125]C. W. Dupree, "A Comparative Experimental Study of the Pupil-Self Study Method and the Modern Systematic Method of Teaching Spelling," Journal of Experimental Education, VI (September, 1937), pp. 1-6.

[126]Hale C. Reid and A. N. Hieronymus, "An Evaluation of Five Methods of Teaching Spelling in the Second and Third Grades" (Washington, D. C.: U. S. Office of Education Cooperative Research Project No. 1869, 1963).

[127]Sherwin, Four Problems in Teaching English: A Critique of Research, p. 107.

instruction consists of teaching words from a printed list and testing the words by dictating them. The context method involves presenting the words in some prose context, teaching the words in context, and testing the words in some prose context. Several studies support the conclusion that the list method is superior to the context method.[128,129] While it has been maintained, on theoretical grounds, that teaching spelling in a prose context is desirable because learning will transfer more readily to contextual situations, the experimental evidence indicates that the list method is more effective and efficient in spelling instruction.[130]

Phonic Generalizations

There has been great disparity in the opinions of experts concerning the value of spelling generalizations. A number of studies have reported negative transfer to spelling words. King reported that teaching spelling generalizations appeared to be an impractical task for both teacher and students. It would be difficult, concluded King, for students to learn to apply the many complicated rules that would be

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[128] W. E. Hawley and Jackson Gallup, "The 'List' Versus the 'Sentence' Method of Teaching Spelling," Journal of Educational Research, V (April, 1922), pp. 306-310.

[129] Paul McKee, "Teaching and Testing Spelling by Column and Context Forms," Journal of Educational Research, XXV (April, 1927), pp. 246-255.

[130] Sherwin, Four Problems in Teaching English: A Critique of Research, pp. 82-86.

necessary for spelling competency.[131]

If a generalization could be applied to enough words to justify its use, Archer concluded, the spelling rule would be useful to the speller. He supported the use of generalizations which cover a sufficient number of words to pay for the effort of teaching and learning the generalization. He suggested that the generalization be taught to be applied in proper situations through inductive and deductive methods.[132]

While the research on spelling generalizations and their utility has been inconclusive, some educators have insisted upon the retention of spelling generalizations in the curriculum. They contend that teaching generalizations results in improvement of spelling ability and that generalizations have high utility value in the intermediate grades.

Horn has identified several rules that apply to a large number of words and have very few exceptions. These generalizations with high utility value include the rules for: (1) dropping final silent "e," (2) changing "y" to "i," (3) doubling the final consonant, and (4) spelling words with "qu."[133]

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[131]Luella King, "Learning and Applying Spelling Rules in Grades Three to Eight," Contributions to Education (New York: Bureau of Publications, Teachers College, Columbia University, 1932).

[132]C. P. Archer, "Shall We Teach Spelling by Rule," Elementary English, VII (March, 1930), pp. 61-63.

[133]Ernest Horn, "Spelling," Encyclopedia of Educational Research, 3rd edition, Chester W. Harris, editor (New York: The Macmillan Company, 1960), pp. 1256-1257.

Word Grouping

The value of grouping spelling words by sight or sound characteristics has never been fully or systematically explored.[134] In 1935, Gates found that a generalization program based on word grouping enabled students to increase their power to spell new words to some degree. In his final evaluation of the research, however, he admitted that the general value of word groupings to foster generalization in spelling is not clearly proven.[135] In reference to Gates' study Sherwin stated that after reviewing the research of the three decades which have elapsed since Gates' study, one can do no more than add an affirmation.[136]

Individualized Spelling Instruction

It is generally agreed that to be most effective, spelling instruction must be differentiated in terms of the needs of the individual. The characteristics of a well-motivated learning activity can be part of an individualized spelling program which incorporates self-selection, self-pacing, and self-evaluation. Boyd stated:

> In spelling, as in other subject areas, both learning rates and achievement levels vary for individuals within the group . . . Materials should be adjusted to learning abilities by differentiated assignments to avoid slow learners being frustrated by low achievement with difficult assignments and

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[134]Sherwin, Four Problems in Teaching English, p. 68.

[135]Arthur Gates, Generalization and Transfer in Spelling (New York: Bureau of Publications, Teachers College, Columbia University, 1935).

[136]Sherwin, Four Problems in Teaching English, p. 71.

fast learners being unchallenged by materials already mastered.[137]

Studies which deal with the value of individualizing spelling instruction find evidence in favor of individualization.[138,139,140] However, the lack of control in research methods prevents any confident generalizations about the merits of individualized instruction based on these studies.[141]

Summary

This section of the review of the literature has presented a brief overview of the present state of affairs in the spelling curriculum. A definition of spelling was presented, and controversies concerning study plan, list versus context method, utility of generalizations, word grouping, and individualization of spelling instruction have been discussed.

Summary of the Literature

Several formal theoretical positions have been presented which incorporate the decision making process as a vital component. A psychological view of decision making

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[137] Boyd, Spelling in the Elementary School, p. 76.

[138] Keener, "Comparison of the Group and Individual Methods of Teaching Spelling," pp. 31-35.

[139] Waltor S. Guiler and Gilbert A. Lease, "An Experimental Study of Methods of Instruction in Spelling," Elementary School Journal, XXXXIII (December, 1942), pp. 234-238.

[140] Edward Eisman, "Individualized Spelling: Second Report," Elementary English, XXXX (May, 1963), pp. 529-530.

[141] Sherwin, Four Problems in Teaching English: A Critique of Research, p. 88.

proposed that a person's strategy in making decisions be one which maximizes expected utility. The theoretical formulation of level of aspiration is consistent with the psychological decision theory position. Therefore, it has been suggested that the theory of level of aspiration be interpreted in terms of decision making.

The most formalized theoretical position relating to decision making is that of cognitive field theory. Learning itself, according to cognitive field theory, is dependent upon the capacity of the student for decision making. Thus, any attempt to impose learning upon the student would be foredoomed to failure.

Few empirical studies were found directly related to student decision making in the curriculum. Empirical evidence has suggested, however, that a commitment warning initiates a psychological set which leads to more careful and decisive decision making.

There is substantial evidence to support the theory of decision making strategy as one which maximizes expected utility. There is also empirical evidence to support the contention that the concept of level of aspiration is associated with expected utility and that level of aspiration can be viewed in terms of decision situations.

The phenomenon of student decision making in the form of learner-directed instruction and the potential for such procedures has received confirmation in numerous studies. Most notably, studies on student-controlled instruction have

confirmed the positive effects of learner-directed instruction. Additional evidence suggested that the learner's motivation increases as a function of his control over the learning situation.

A second body of literature which was reviewed presented an historical perspective of individualized instruction and a rationale for the use of the contracting technique. This review of the literature also examined specific components of contracting which were supported by theoretical constructs and empirical evidence.

Individualized instruction has attracted much attention throughout the history of education and especially in this decade. While many educators are committed to the idea of individualized instruction, and while some research on individualization has been done, many issues remain unsettled.

Educators have reported that contracting is a technique which is feasible, applicable, and appropriate for individualizing instruction. There is, however, no available empirical evidence to support the use of this technique in the classroom.

Three specific components of contracting were described: (1) decision making; (2) success; and (3) commitment. Each component was supported as valid on the basis of theoretical propositions and empirical evidence drawn from the fields of education and psychology.

A third body of literature reviewed was that pertaining to the existing state of the spelling curriculum.

Empirical studies would suggest that there is some advantage to the study-test-study plan of instruction. Empirical evidence is also available to substantiate the contention that the list method is more effective and efficient than the context method. There is considerable disparity of opinion, and research is inconclusive on the place of phonic generalizations in the spelling curriculum and the practice of word grouping.

In most classrooms spelling is currently taught in special periods set aside for that purpose. A spelling textbook largely determines the words to be learned, the method of presentation, and the study plan used by the students.

The major focus of this review of the literature has been on decision making in the curriculum. It has been deemed imperative that educators give planned attention to decision making in the curriculum. Contracting has been suggested by several educators as a means of incorporating student decision making in the curriculum. The spelling curriculum is ideally suited as a transitional program to move from teacher decision making to student decision making. Because of its structure and well organized framework, the spelling curriculum lends itself to a great variety of potential student decision making opportunities.

CHAPTER III

METHODOLOGY

From a population of forty volunteer teachers and their classrooms in Prince Georges County, Maryland, using The Follett Spelling Program,[142] third, fourth, and fifth grade classrooms were randomly assigned to one of three treatment groups. The treatment dimension of the study consisted of three different approaches to decision making in the spelling curriculum: teacher decision making (T_1), a combination of teacher and student decision making (T_2), and student decision making (T_3). This sequence of treatment groups provided a series of situations from teacher-centered decision making (T_1) to student-centered decision making (T_3) in the spelling curriculum. The second dimension of the design was the grade level of the classrooms involved in the study.

Prior to the initiation of experimental procedures, all participating teachers attended one of three in-service training sessions specifically designed for explaining the treatments to be implemented in their classrooms. The Spelling

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[142] Botel, The Follett Spelling Program.

Achievement Test (pretest) was also administered to every pupil to be involved in the investigation prior to the initiation of the experimental procedures. On the basis of this pretest, each student was assigned to a spelling achievement group and was given spelling materials according to specifications in The Follett Spelling Program.[143] The Spelling Achievement Test (post-test) and a Spelling Attitude Scale were administered at the end of the twelve week study to all students involved in the investigation. In addition, the total number of words spelled correctly on weekly spelling tests were also tabulated for each student.

The population, development of instruments, experimental procedures, and statistical analysis will be described in greater detail in the subsequent sections of this chapter.

Description of the Population

Subjects were forty teachers and their classrooms in Prince Georges County, Maryland. There were thirteen third grade classes, fifteen fourth grade classes, and twelve fifth grade classes, resulting in a total of 995 students and 40 teachers. At the time the data were gathered, during the spring semester of 1972, the teachers in all forty classrooms were using The Follett Spelling Program for spelling instruction.

Sources of Subjects

Permission to conduct the study was obtained from the Director of Testing and Research in Prince Georges County,

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[143] Ibid.

Maryland. Data were gathered in nine elementary schools which were considered to be representative of the elementary schools within the county. No Title One schools, however, were involved in the investigation.

The investigator met with the principals of each of the nine schools to explain the purposes of the study. Upon approval of the principal in each school, the investigator met with all third, fourth, and fifth grade faculty who were using The Follett Spelling Program to explain the nature and purposes of the study to be conducted and the general procedures for data collection. Volunteers were requested to participate in the study which would be in effect for twelve weeks. Expediencies such as the teacher's willingness to participate and use of The Follett Spelling Program were determinants of the classes used as sources of subjects. All classrooms involved in the study were self-contained classrooms, and only classrooms composed of heterogeneously grouped students were included in the population. Children within the classroom populations who were receiving Special Education services and who thus might lend a particular bias to the study, were also excluded from the population.

Assignment to Treatment Groups

The forty teachers and their classrooms were randomly assigned to form three treatment groups (Table 1). This random assignment was achieved by first grouping classrooms according to grade level. Then classrooms within each grade level were randomly assigned to one of the three treatment groups. This

procedure was employed for random assignment of classrooms at all three grade levels represented in the study.

Table I - Assignment of 40 Classrooms and Students to Treatment Groups

Grade	Number of Classrooms and Students		
	Treatment Group 1	Treatment Group 2	Treatment Group 3
3	5 (124)	4 (84)	4 (111)
4	5 (118)	5 (119)	5 (131)
5	4 (99)	4 (96)	4 (113)
Total Classrooms And Total Number of Students	14 (341)	13 (299)	13 (355)

Development of the Instruments

Two instruments were used to facilitate data collection for this investigation: the Spelling Achievement Test and the Spelling Attitude Scale.

Spelling Achievement Test

The Follett Spelling Placement Tests were adapted for use in this investigation. The Follett Spelling Program Placement Tests[144] consist of three batteries of twenty words

[144] Ibid.

for each grade level and are designed to determine a child's spelling achievement and to indicate placement in The Follett Spelling Program. For the purposes of this study, the first two batteries at each grade level were used in addition to the even items from the next two batteries (ten words from each battery) for the next higher grade level. This adaptation of The Follett Spelling Program Placement Tests resulted in a sixty item Spelling Achievement Test (Appendix A) for each grade level of higher discrimination power and reliability than the grade level Follett Spelling Placement Tests.

The Follett Spelling Program spelling lists were deemed relevant for this study on the basis of the fact that they were developed from the New Iowa Spelling Scale.[145] The New Iowa Spelling Scale is comprised of words which have been shown by numerous investigations to be among those most commonly used by adults and children in written communications. The scale presents the average or typical difficulty of 5507 words of high social usefulness. The difficulty levels of these words are based on a nation-wide sampling of spelling at each grade level by pupils in grades two through eight. Word difficulties are based on data from approximately 230,000 pupils in 645 school systems located in all states and in all types of cities in the U. S. The New Iowa Spelling Scale is frequently cited by authorities as an index to word

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[145]Harry A. Greene, The New Iowa Spelling Scale (Iowa City: State University of Iowa, 1954), p. 3.

difficulty level.[146,147]

Spelling Attitude Scale

At the initiation of this study no published information was available specifically relating to attitudes toward spelling and spelling instruction. For this study a spelling attitude scale was developed by the researcher (Appendix B). Several attitude scales were consulted in the development of this scale as well as Buros' Sixth Mental Measurement Yearbook.[148] The items in this scale were adapted from the following attitude scales: Brown-Holtzman's Survey of Study Habits and Attitudes;[149] the California Study Methods Survey;[150] and Estes' Scale to Measure Attitudes Toward Reading.[151] Taking direction from the literature, the researcher constructed twenty-six YES - NO type attitude statements designed to provide information on pupils' attitudes toward spelling and spelling instruction. Each of the statements in the scale was worded in such a way as to call to mind the subject "spelling." A three member panel of doctoral

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[146]Paul S. Anderson, Language Skills in Elementary Education (New York: The Macmillan Company, 1972), p. 370.

[147]Oscar K. Boros (ed.), Sixth Mental Measurement Yearbook (Highland Park: The Gryphon Press, 1965), p. 326.

[148]Ibid., p. 1140-1148.

[149]William F. Brown and Wayne H. Holtzman, Survey of Study Habits and Attitudes (New York: The Psychological Corporation, 1967).

[150]Harold D. Carter, California Study Methods Survey (Los Angeles: California Test Bureau, 1958).

[151]Thomas H. Estes, "A Scale to Measure Attitudes Toward Reading," Journal of Reading, XV (November, 1971), p. 138.

students reviewed the items for clarity of expression and relevance to spelling instruction. One hundred per cent agreement was reached on the validity of the items included in the final scale. A pilot study was conducted to establish the reliability for the scale. Classrooms used for the pilot study were purposely chosen for their heterogeneous nature in order to include as wide a variety of attitudes as possible. Earlier research has suggested that one way to insure representation of a wide variety of attitudes is to sample a wide variety of achievement or ability levels.[152] Subjects were third, fourth, and fifth grade pupils in three classrooms in an elementary school in Prince Georges County, Maryland, who were using The Follett Spelling Program. A total of eighty subjects took part in this pilot study, thirty third graders, twenty-seven fourth graders, and twenty-three fifth graders. The split-halves reliability coefficient was found to be .80.

Experimental Procedures

Experimental procedures involved the random assignment of teachers and their classrooms to one of the three treatment groups. The three treatment variations were:

1. Teacher decision making (T_1). - The teacher assigned all spelling words and conducted teacher directed spelling study according to The Follett Spelling Program specifications. The students did not make decisions concerning the spelling curriculum. The content and methods of study were determined

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[152] Ibid., p. 136.

by the teacher (Appendix E).

2. Combination teacher and student decision making (T_2). - The students, using the contracting procedure, decided how many words and which words they would learn to spell in a given week. Students selected words from the appropriate Follett Spelling Program[153] word lists. The contracting procedure required that the learning to take place be mutually agreed upon between the student and the teacher. The student determined a contract, then he and the teacher negotiated the contract until an agreement was reached. The teachers in Treatment Group 2 conducted teacher-directed spelling instruction according to The Follett Spelling Program[154] specifications. In this treatment group students were involved in decision making concerning the number of words and which words would be learned. The teacher made decisions concerning the method of spelling study without provision for student input. Students were involved in decision making concerning content but were not involved in decision making concerning the study methods to be used (Appendix F).

3. Student decision making (T_3). - The students contracted for the number of spelling words and which spelling words would be learned in a given week. Students selected words from the appropriate Follett Spelling Program[155] lists. In addition, they contracted for the study method to be used to

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[153] Botel, The Follett Spelling Program.

[154] Ibid.

[155] Ibid.

learn these words. Students were involved in decision making concerning both the content and the methods of study for spelling (Appendix G).

In-service Training

Three one hour and a half in-service training sessions were conducted by the researcher which were designed to specify procedures for each of the three treatment groups (Appendices E, F, G, and H). The teachers attended the in-service session which corresponded to their randomly assigned treatment group. The in-service sessions were conducted at the University of Maryland according to the following schedule: Treatment Group 1 - Monday, January 17, 1972 - 3:45 - 5:15 p.m. Treatment Group 2 - Tuesday, January 18, 1972 - 3:45 - 5:15 p.m. Treatment Group 3 - Wednesday, January 19, 1972 - 3:45 - 5:15 p.m. During the in-service sessions, procedures were specified and practice was given in assigning word lists, keeping records, and negotiating contracts for Treatment Groups 2 and 3 (Appendix H).

Administration of the Spelling Achievement Test (pretest)

The Spelling Achievement Test (pretest)(Appendix A) was administered to all children involved in the study. The test was administered for two purposes: (1) to determine achievement group assignment and appropriate Follett spelling materials for all children involved in the study, and (2) to be used as a covariate in the analysis of data.

Fifteen test administrators attended a one hour training

session for the purpose of clarifying administration and scoring procedures for the Spelling Achievement Test. Word pronunciation was agreed upon for standardization, and a description of test procedures was distributed (Appendix B). Each test administrator, working with a fellow test administrator, pronounced each word and administered a ten item sample test using the specified testing procedures (Appendix H). Briefly, the spelling test is administered in a group situation (by classroom). The test words are enunciated carefully by the test administrator, used in a sentence, and pronounced a second time. This was not a timed test. The Spelling Achievement Test (pretest) was administered on Friday, January 28th, 1972, to all third, fourth, and fifth grade children involved in the study. The test administrators corrected all tests according to standardized procedures (Appendix B). The researcher supervised and checked the scoring of at least one paper for each test administrator.

Spelling Achievement Grouping

Based on the results of the Spelling Achievement Test (pretest) battery 1, at each grade level, the pupils in each classroom were divided into achievement groups according to specifications in The Follett Spelling Program:[156]

Low spelling achievement group - pupils scoring below 85% on battery 1.

High spelling achievement group - pupils scoring above 85% on

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[156] Ibid.

battery 1.

This information was recorded for each student involved in the study and returned to the classroom teacher for use in assigning students the appropriate Follett Spelling Program materials. Teachers were encouraged to use their best judgments as to the appropriateness of the achievement group suggested by the Follett Placement Test. (This Placement Test, battery 1, was actually the first section of the Spelling Achievement Test administered as the pretest.) It should be reported that in fifteen cases the teachers felt that the test had placed students too high, and in only three cases was it felt that students were placed too low. These children were placed in the achievement group deemed most suitable by the classroom teacher. On the basis of the Follett Placement Test each child involved in the study was assigned to an achievement group (Table 2) and the corresponding Follett Spelling Program word lists.

Table II - Spelling Achievement Group Assignment of 995 Students (Percentage of Students in Each Achievement Group) by Grade Level and Treatment Group

Treatment Group 1

Spelling Achievement Group	Grade 3	Grade 4	Grade 5	Total for Treatment Group 1
Low	21 (.17)	26 (.22)	40 (.40)	87 (.26)
High	103 (.83)	92 (.78)	59 (.60)	254 (.74)

Treatment Group 2

Spelling Achievement Group	Grade 3	Grade 4	Grade 5	Total for Treatment Group 2
Low	14 (.17)	26 (.22)	28 (.29)	68 (.23)
High	70 (.83)	93 (.78)	68 (.71)	231 (.77)

Treatment Group 3

Spelling Achievement Group	Grade 3	Grade 4	Grade 5	Total for Treatment Group 3
Low	19 (.17)	28 (.21)	14 (.17)	61 (.17)
High	92 (.83)	103 (.79)	99 (.83)	294 (.83)

Initiation and Duration of Experimental Procedures

The twelve week study officially began on Monday, February 7, 1972. Experimental procedures were in effect for a twelve week period which terminated on Friday, April 28, 1972.

Follow-up In-Service Sessions

To assure proper implementation of experimental procedures for each treatment group, two follow-up in-service sessions were conducted by the researcher, one during the second week and one during the fourth week of the study. These one-half hour sessions were held in the elementary schools. On both occasions the researcher met with all teachers by treatment group assignment for a one-half hour session. The purposes of these sessions were to answer questions and discuss concerns about the procedures and to determine how well teachers were adhering to the specified procedures of their assigned treatment group. A subjective observation of the researcher should perhaps be reported. The teachers involved seemed to show considerable sensitivity to the importance of following treatment procedures and keeping records for this study. Most of the questions and concerns on these visits related to procedures and record keeping and, in Treatment Groups 2 and 3, the role of the teacher in contract negotiation.

Monitoring

Blind monitoring sessions were conducted with the assistance of five graduate students from the University of

Maryland to determine if teachers were adhering to the specified procedures of their treatment groups. A one hour training session was conducted with the monitors to establish inter-rater reliability. Sample situations were presented to the monitors which they coded on a checklist in a practice situation (Appendix I). Inter-rater reliability on use of the Monitoring Checklist (Appendix J) was established at a level of one hundred per cent agreement.

The monitoring sessions took place during the eighth and again during the tenth week of the study. The observers used a checklist observation form (Appendix J) to record observed procedures in four randomly selected classrooms from each treatment group. A total of twenty-four classroom observations were made. Monitors did not know the treatment groups to which the classrooms had been assigned. There was one hundred per cent agreement between the results of the checklist and the assigned treatment group of the observed class.

Collection of Data

The classroom teachers tabulated the total number of words spelled correctly on the weekly spelling tests for every student involved in the study (Appendix E, Forms 1 and 1A, Appendix F, Forms 2 and 2A, Appendix G, Forms 3 and 3A). This information was collected every four weeks during the study to assure that proper record keeping procedures were being followed.

Data were collected at the conclusion of the study on: (1) performance on the Spelling Achievement Test and (2) attitude

toward spelling as determined by the Spelling Attitude Scale. Reliability was computed for both tests using the split-half method.

Spelling Achievement Test. - The same Spelling Achievement Test (Appendix A) was employed as a post-measure of spelling achievement. Botel stated that "any (spelling) test may be repeated so long as the words are not discussed with the children."[157] Fifteen test administrators were again trained using the same procedures and standards as specified for the pre-measure of spelling achievement.

Test of Reliability on the Spelling Achievement Test (post-test). - Reliability was computed for each grade level on the Spelling Achievement Test. Twenty-five per cent of the population was randomly selected as a reliability sample. This included 80 third graders, 92 fourth graders, and 77 fifth graders. The reliabilities were calculated using the split-half method. The results indicated a reasonable degree of internal consistency at the three grade levels as follows: grade three, .949; grade four, .978; and grade five, .976.

Spelling Attitude Scale. - On Monday morning May 1, 1972, the Spelling Attitude Scale (Appendix C) was administered to each classroom by the classroom teacher. Procedures were standardized for test administration purposes (Appendix D). Twenty graduate students in Education, University of Maryland, were trained to grade the Spelling Attitude Scale. All

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[157] Ibid., p. 4.

grading was done under the supervision of the researcher.

Reliability of the Spelling Attitude Scale. - Reliability on the Spelling Attitude Scale was computed for each grade level. Twenty-five per cent of the population at each grade level was randomly selected as a reliability sample. This sample consisted of 78 third graders, 90 fourth graders, and 77 fifth graders. The reliabilities were calculated using the split-half method. The results indicated a reasonable degree of internal consistency for the three grade levels as follows: grade three, .783; grade four, .785; and grade five, .737.

Methods of Analysis of Data

Statistics for this study consisted of four scores for each student involved in the study. Scores were obtained for each student on the following: (1) Spelling Achievement Test (pretest), (2) Spelling Achievement Test (post-test), (3) tabulation of total number of words spelled correctly on weekly spelling tests, and (4) Spelling Attitude Scale. In this study the unit of analysis was the classroom, rather than the individual student, due to the fact that classrooms were randomly assigned to treatment groups.[158] The data were analyzed by means of analysis of variance and co-variance procedures employing a 3 x 3 factorial design. Statistics were processed through the use of Multivariate

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[158] C. Mitchell Dayton, Design of Educational Experiments (New York: McGraw Hill Publishing Company, 1970), p. 314.

Analysis of Variance (MANOVA) Program,[159] and the Analysis of Covariance (ANCOVA) Program.[160]

Results are presented in Chapter IV, and a summary of the study, discussion of the results, and implications for theory, research, and practice are found in Chapter V.

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[159] D. J. Clyde, E. M. Cramer, R. J. Sherin, Multivariate Statistical Programs, Biometric Laboratory, University of Miami, Coral Gables, Florida, 1966.

[160] The Analysis of Covariance (ANCOVA) was prepared by C. Mitchell Dayton, College of Education, University of Maryland.

CHAPTER IV

FINDINGS

The purpose of this study was to investigate the relationship between student decision making and spelling achievement and between student decision making and attitude toward the spelling curriculum. Six null hypotheses were formulated for study. The significant level selected for rejection of the null hypothesis was .05. The research questions are restated in this chapter and are accompanied by the null hypotheses and findings pertinent to them.

Spelling Achievement and Student Decision Making

The first set of research questions was concerned with the relationship between student decision making and spelling achievement for third, fourth, and fifth grade students. The Spelling Achievement Test (post-test) and number of words spelled correctly on weekly tests were the two measures of spelling achievement. The research questions formulated for study were:

Is spelling achievement affected by the degree of student decision making in the spelling curriculum?

Is spelling achievement differentially affected by

grade level with respect to the degree of student decision making in the spelling curriculum?

Results of Analysis of Covariance Procedures on the Spelling Achievement Test (post-test)

The assumption of homogeneity of variance was tested using Hartley's F_{max}; no difference was observed on the Spelling Achievement Test pretest or post-test.

The assumption of homogeneity of regression was tested for the criterion (Spelling Achievement Test [post-test]) and covariable (Spelling Achievement Test [pretest]) measures and this assumption was met ($p.<.08$). The within cells correlation between the Spelling Achievement Test (pretest) and Spelling Achievement Test (post-test) was .92.

Hypothesis 1. - The null hypothesis that there is no difference in mean scores on the Spelling Achievement Test (post-test) under different degrees of student decision making in the spelling curriculum (T_1, T_2, and T_3) was tested. Spelling Achievement Test (pretest) means are shown in Table III. Post-test mean scores, and adjusted mean scores for the three treatment variations are shown in Table IV. And the results of the analysis of covariance are shown in Table V. The F ratio with 2 and 30 degrees of freedom was 1.480. Findings were not significant at the .05 level, and the null hypothesis was retained.

Table III - Mean Scores and Standard Deviations on the Spelling Achievement Test (Pretest) for Treatments by Grade Level

	Sample Size	Mean	Standard Deviation
Treatment 1	14	39.691	
Grade 3	5	44.091	2.911
Grade 4	5	40.592	4.679
Grade 5	4	33.065	5.493
Treatment 2	13	39.846	
Grade 3	4	43.395	.983
Grade 4	5	40.723	5.754
Grade 5	4	35.201	6.541
Treatment 3	13	41.169	
Grade 3	4	41.394	3.688
Grade 4	5	39.931	2.955
Grade 5	4	42.493	1.269

Table IV - Mean Scores and Standard Deviations and Adjusted Mean Scores and Adjusted Standard Deviations on the Spelling Achievement Test (Post-test) for Treatments by Grade Level

	Sample Size	Mean	Adjusted Mean	Standard Deviation	Adjusted Standard Deviation
Treatment 1	14	44.896	44.075		
Grade 3	5	47.853	43.477	3.040	1.208
Grade 4	5	45.758	45.366	6.257	2.486
Grade 5	4	40.121	43.214	10.119	4.022
Treatment 2	13	44.029	44.454		
Grade 3	4	47.441	43.853	1.270	.504
Grade 4	5	45.295	44.728	5.136	2.041
Grade 5	4	39.036	44.713	6.114	2.432
Treatment 3	13	45.325	44.255		
Grade 3	4	46.308	44.982	4.313	1.714
Grade 4	5	44.035	44.364	3.870	1.538
Grade 5	4	45.956	43.389	1.361	.541

Table V - Analysis of Covariance on the Spelling Achievement Test (Post-Test) and Spelling Achievement Test (Pretest)

Source	S.S.	D.F.	M.S.	F	p less than
Regression	711.137	1	711.137	159.894	.001
Treatment	13.165	2	6.582	1.480	.244 (n.s.)
Grade	8.525	2	4.262	.958	.395 (n.s.)
Treatment X Grade	35.887	4	8.972	2.017	.117 (n.s.)
Error	133.427	30	4.448		

Hypothesis 2. - The null hypothesis that there is no interaction between treatments and grade levels on the Spelling Achievement Test (post-test) was tested. Post-test adjusted mean scores and standard deviations for each grade level by treatment group are reported in Table IV, and results of the analysis of covariance are shown in Table V. The F ratio with 4 and 30 degrees of freedom was 2.017. Findings were not significant at the .05 level, and the null hypothesis was retained.

Results of Analysis of Variance Procedures on the Number of Words Spelled Correctly on Weekly Tests

The assumption of homogeneity of variance was tested on the number of words spelled correctly on weekly tests. The findings were significant ($p.<.05$) when comparing the nine (treatment X grade level) groups.

Hypothesis 3. - The null hypothesis that there is no difference in mean scores on the number of words spelled correctly on weekly tests under three different degrees of student decision making in the spelling curriculum (T_1, T_2, and T_3) was tested. Mean scores for the three treatment variations are shown in Table VI, and the results of the analysis of variance procedure on the number of words spelled correctly on weekly tests are shown in Table VII. The F ratio with 2 and 31 degrees of freedom was 1.924. Findings were not significant at the .05 level, and the null hypothesis was retained.

Hypothesis 4. - The null hypothesis that there is no interaction between treatment and grade levels on the number of words spelled correctly was tested. Mean scores and standard deviations for each grade level by treatment group are reported in Table VI and the results of the analysis of variance procedure on the number of words spelled correctly on weekly tests are shown in Table VII. The F ratio with 4 and 31 degrees of freedom was 4.064. This difference was significant at the .05 level.

In view of the significant difference it seems appropriate to observe certain trends which were apparent in Figure 1. No interaction effects were observed among treatment groups 1 and 2 and grade levels 3, 4, and 5; however, treatment variation 3 appears to have a depressing effect at grade 3 and an inflating effect at grade 5 on the number of words spelled correctly on weekly tests.

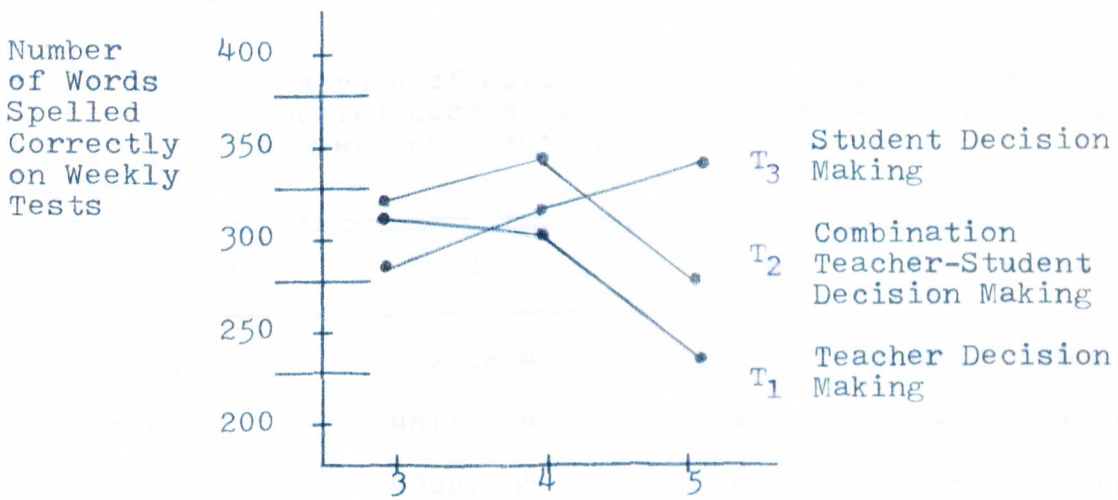
Table VI - Mean Scores and Standard Deviations and Adjusted Mean Scores and Adjusted Standard Deviations on the Number of Words Spelled Correctly on Weekly Tests for Treatments by Grade Level

	Sample Size	Mean	Adjusted Mean	Standard Deviation	Adjusted Standard Deviation
Treatment 1	14	288.839	291.989		
Grade 3	5	312.914	302.971	27.350	26.245
Grade 4	5	309.749	308.799	47.429	45.514
Grade 5	4	238.859	257.250	8.895	8.536
Treatment 2	13	314.769	315.745		
Grade 3	4	315.090	306.937	40.947	39.294
Grade 4	5	342.344	341.058	12.452	11.953
Grade 5	4	280.008	292.911	22.477	21.569
Treatment 3	13	316.831	314.396		
Grade 3	4	286.838	283.826	19.688	18.892
Grade 4	5	314.744	315.490	26.153	25.096
Grade 5	4	349.433	343.597	87.803	84.257

Table VII - Analysis of Variance on the Number of Words Spelled Correctly on Weekly Tests

Source	D.F.	M.S.	F	p less than
Treatment	2	2881.70	1.924	.163 (n.s.)
Grade	2	3615.84	2.415	.106 (n.s.)
Treatment X Grade	4	6085.092	4.064	.009
Error	31	1497.24		

Figure 1 - Mean Scores for T_1, T_2, and T_3 on Number of Words Spelled Correctly on Weekly Tests for 3rd, 4th, and 5th Grades



Post hoc analysis relative to hypothesis 4. - Analysis of covariance on the data relating to hypothesis 4 was carried out due to significant differences which were observed on the Spelling Achievement Test (pretest) (Table I). The assumption of homogeneity of regression was tested between the criterion (number of words spelled correctly on weekly tests) and the covariable (Spelling Achievement Test [pretest]) measures. The homogeneity of regression assumption was not met ($p.<.001$). The criterion-covariable within cells correlation was .281. However, analysis of covariance was employed due to the robust nature of the analysis of covariance procedure. Adjusted means and standard deviations are presented in Table VI, and the results of the analysis of covariance procedures are shown in Table VIII. The F ratio with 4 and 30 degrees of freedom was 1.926. Findings were not significant at the .05 level and the null hypothesis was retained.

Table VIII - Analysis of Covariance on the Number of Words Spelled Correctly on Weekly Tests and Spelling Achievement Test (Pretest)

Source	S.S.	D.F.	M.S.	F	p less than
Regression	3672.854	1	3672.854	2.578	.119 (n.s.)
Treatment	4815.104	2	2407.552	1.690	.202 (n.s.)
Grade	4980.538	2	2490.269	1.748	.191 (n.s.)
Treatment X Grade	10977.932	4	2744.483	1.926	.132 (n.s.)
Error	42747.302	30	1424.910		

Student Decision Making and Attitude Toward the Spelling Curriculum

The second set of research questions was concerned with the relationship between student decision making and attitude toward the spelling curriculum for third, fourth, and fifth grade students. The Spelling Attitude Scale was used to determine attitude toward the spelling curriculum. The research questions formulated for study were:

> Is attitude toward the spelling curriculum affected by the degree of student decision making in the spelling curriculum?
>
> Is attitude toward the spelling curriculum differentially affected by grade level with respect to the degree of student decision making in the spelling curriculum?

Results of Analysis of Variance Procedures on the Spelling Attitude Scale

The assumption of homogeneity of variance was tested using Hartley's F_{max}; no significant difference was observed on the Spelling Attitude Scale.

Hypothesis 5. - The null hypothesis that there is no difference in mean scores on the Spelling Attitude Scale under different degrees of student decision making in the spelling curriculum (T_1, T_2, and T_3) was tested. Mean scores for the three treatment variations are shown in Table IX, and the results of the analysis of variance procedure are shown in Table X. The F ratio with 2 and 31 degrees of freedom was

2.995. Findings were not significant at the .05 level, and the null hypothesis was retained.

Table IX - Mean Scores and Standard Deviations on the Spelling Attitude Scale by Treatment Group and Grade Level

	Sample Size	Mean	Standard Deviation
Treatment Group 1	14	19.494	
Grade 3	5	20.689	1.044
Grade 4	5	19.814	1.806
Grade 5	4	17.699	2.049
Treatment Group 2	13	18.484	
Grade 3	4	19.439	1.269
Grade 4	5	18.679	1.424
Grade 5	4	17.285	1.201
Treatment Group 3	13	19.817	
Grade 3	4	20.686	1.707
Grade 4	5	19.748	1.052
Grade 5	4	19.634	1.139

Table X - Analysis of Variance on Spelling Attitude Scale

Source	D.F.	M.S.	F	p less than
Treatment	2	6.216	2.995	.065 (n.s.)
Grade	2	11.630	5.603	.008
Treatment X Grade	4	1.922	.926	.462 (n.s.)
Error	31	2.076		

Hypothesis 6. - The null hypothesis that there is no interaction between treatment and grade levels on the Spelling Attitude Scale was tested. Mean scores and standard deviations for each grade level are shown in Table IX, and the results of the analysis of variance procedure are shown in Table X. The F ratio with 4 and 31 degrees of freedom was .926. Findings were not significant at the .05 level, and the null hypothesis was retained.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR THEORY, TEACHING, AND RESEARCH

> Education at its best is an attempt to develop the mind and character in such a way that the best possible choices and decisions are made.
>
> Paul Nash

Summary

While the importance of student decision making in the curriculum has been given recognition in several theoretical propositions, empirical support for this phenomenon must be derived essentially from peripheral areas such as psychological studies of decision making in laboratory experiments. Few empirical studies were found which attempt to assess student decision making in the natural setting of the elementary school. Yet, the effects of student decision making upon achievement and attitude toward learning would seem to be of particular concern to educators seeking to provide educational experiences to meet the individual needs of the learner.

Purposes of the Study

This study was conducted to investigate whether

student decision making opportunities in the spelling curriculum affect spelling achievement and attitude toward the spelling curriculum. This study was designed to gain insight into some of the components of decision making which should have a place in the curriculum. Specifically, the primary purpose of this research was to determine whether spelling achievement and attitude toward the spelling curriculum differ under three different approaches to student decision making in the spelling curriculum. The three different approaches to decision making were: (1) teacher decision making, (2) combination teacher decision making and student decision making, and (3) student decision making. In this study student decision making was implemented through the use of a contracting procedure. The second purpose of the study was to determine whether spelling achievement and attitude toward the spelling curriculum under three different approaches to student decision making were differentially affected by grade level.

Statement of the Problem

What is the relationship between student decision making in the spelling curriculum and spelling achievement? What is the relationship between student decision making in the spelling curriculum and attitude toward the spelling curriculum?

More specifically, this investigation explored the relationship between three different approaches to decision making in the spelling curriculum and (1) spelling achievement

and (2) attitude toward the spelling curriculum. The aspects of spelling achievement which were investigated included: (1) spelling achievement test performance and (2) total number of words correctly spelled on weekly tests over a twelve week period. A spelling attitude scale was employed to determine attitude toward the spelling curriculum. Spelling achievement and attitude toward the spelling curriculum was investigated for third, fourth, and fifth grade classrooms.

Research Questions

1. Is spelling achievement affected by the degree of student decision making in the spelling curriculum?
2. Is spelling achievement differentially affected by grade level with respect to the degree of student decision making in the spelling curriculum?
3. Is attitude toward the spelling curriculum affected by the degree of student decision making in the spelling curriculum?
4. Is attitude toward the spelling curriculum differentially affected by grade level with respect to the degree of student decision making in the spelling curriculum?

Methodology

The population for the study was forty elementary teachers and their classrooms in Prince Georges County, Maryland. Classrooms were randomly assigned to one of three treatment groups. The treatment variations consisted of three different

approaches to decision making in the spelling curriculum: teacher decision making (T_1), a combination of teacher and student decision making (T_2), and student decision making (T_3).

Student decision making was implemented in the spelling curriculum through the use of a contracting procedure. Prior to the initiation of experimental procedures, all participating teachers attended one of three in-service training sessions specifically designed for explaining the treatments to be implemented in their classrooms.

To assure proper implementation of experimental procedures for each treatment group, two follow-up in-service sessions were conducted by the researcher. The purposes of these one-half hour sessions were to answer questions and discuss concerns about the procedures and to determine how well teachers were adhering to the specified procedures of their assigned treatment group.

Blind monitoring sessions were conducted on two occasions to determine if teachers were adhering to the specified procedures of their treatment group. A total of twenty-four classroom observations were made. A one hour monitor training session was conducted by the researcher to establish inter-rater reliability. Inter-rater reliability on the use of the Monitoring Checklist was established during the training session at a level of one hundred per cent.

Monitors did not know the treatment group assignment of the classrooms which they observed. There was one hundred per cent agreement between the results of the monitoring

checklist and the assigned treatment group of the observed classrooms.

At the conclusion of the twelve week study, data were collected on the Spelling Achievement Test (post-test), number of words spelled correctly on weekly tests, and the Spelling Attitude Scale. Reliability data was obtained on the Spelling Achievement Test (post-test), and the Spelling Attitude Scale using the split-half method.

Analysis of Data

In this study the unit of analysis was the classroom, rather than the individual student, due to the fact that classrooms were randomly assigned to treatment groups. Statistics were derived by computing the arithmetic mean for each classroom on: (1) Spelling Achievement Test (pretest), (2) Spelling Achievement Test (post-test), (3) tabulation of total number of words spelled correctly on weekly spelling tests, and (4) Spelling Attitude Scale. The data were analyzed by means of analysis of variance and covariance procedures employing a 3 x 3 factorial design.

Summary of Findings

The findings which were reported in Chapter IV are briefly summarized below:

1. No significant difference was found in spelling achievement under three different degrees of student decision making in the spelling curriculum. Hypotheses one and three were retained.

2. There was no interaction effect among the different degrees of student decision making in the spelling curriculum and grade levels on spelling achievement. Hypotheses two and four were retained.
3. No significant difference was found in attitude toward the spelling curriculum under three different degrees of student decision making in the spelling curriculum. Hypothesis five was retained.
4. There was no interaction effect among the different degrees of student decision making in the spelling curriculum and grade levels in attitude toward the spelling curriculum. Hypothesis six was retained.

Conclusions

The following conclusions were supported: (1) There is no difference in spelling achievement under (a) teacher decision making (T_1), (b) combination teacher and student decision making (T_2), and (c) student decision making (T_3). (2) There is no interaction effect between the different degrees of student decision making and grade levels on spelling achievement. (3) There is no difference in attitude toward the spelling curriculum under the three different degrees of student decision making. (4) There is no interaction effect between the different degrees of student decision making and grade levels in attitude toward the spelling curriculum.

Discussion

The findings related to spelling achievement in this investigation appear to be of importance and interest in view of the theoretical propositions of Seigel and Lewin. Seigel's model of decision making and Lewin's theory on level of aspiration implied that when placed in a decision making situation, individuals will make decisions which will optimize the possibility of success. In this study no significant difference in spelling achievement under the three different approaches to decision making was noted. While this finding does not directly support Seigel and Lewin's theories of decision making, it does support the contention that students, through the use of the contracting procedure, are as effective as teachers in making spelling curriculum decisions.

Cognitive field theorists and the empirical research by Coleman and Mager implied that the student's motivation increases as a function of his control over the learning situation. No significant difference in attitude toward the spelling curriculum under the three different approaches to decision making was noted in this investigation. This may have been the most surprising finding in the investigation since much of the related research and opinion implied that student involvement in curriculum decision making would modify attitude toward the learning situation. One might speculate whether the Spelling Attitude Scale, an admitted limitation of the study, was powerful enough to discern the attitude

differences that perhaps might exist in different decision making situations. Differences that might exist in the student's motivation to learn might not be apparent in an attitude scale of this nature. In addition, the general atmosphere of the classroom may have an overriding effect on attitude toward learning.

In this investigation it was believed that the random assignment of classrooms to the three treatment groups would result in no significant difference among treatment groups. The third and fourth grades were found to be equivalent on the Spelling Achievement Test (pretest). However, a significant difference was observed at fifth grade level among the three treatment groups. The students in fifth grade in Treatment Group 3 scored significantly higher than the students in Treatment Group 1 on the Spelling Achievement Test (pretest). Had the investigator assumed equality of treatment groups based on randomization, significant differences would have been erroneously reported.

Homogeneity of variance was tested using Hartley's F_{max} test. No significant difference was observed on the Spelling Achievement Test (pretest), Spelling Achievement Test (post-test), or the Spelling Attitude Scale. When comparing the nine groups on the number of words spelled correctly on weekly tests, however, the homogeneity of variance, with an F_{max} of 97.4, was significant ($P. < .05$). There were significant differences among the three treatment groups at fifth grade level, with the greatest variance

occurring in T_3 and the least in T_1. It may be possible that the unusually wide variance obtained in T_3 at fifth grade is due to the teacher variable.

In view of the significant difference reported on the analysis of variance on number of words spelled correctly, it seems appropriate to observe certain trends which were apparent (Figure 1). Significant differences among the three treatment groups again occurred at the fifth grade level. The largest difference occurred between T_1 and T_3. A trend then was observed in the direction of greater achievement for fifth grade classrooms under T_3 when compared with fifth grade classrooms under T_1 and T_2. These effects were negated however when Spelling Achievement Test (pretest) differences were taken into consideration.

In this study no hypotheses were formulated with regard to differences in mean scores among the three grade levels represented in this investigation. The significant differences which were observed were anticipated, since it was known at the outset that The Follett Spelling Program differs in difficulty according to grade level. It is interesting to note that there the significant difference in attitude toward the spelling curriculum was directly related to grade level. The lower the grade level the more positive the attitude toward the spelling curriculum. One might wonder if students' attitudes toward school become less positive the longer they remain in school. It might also be possible that students become bored with a regimented curriculum, such

as spelling, as they mature.

Implications for Theory

1. In this investigation, providing students with decision making opportunities resulted in achievement and attitude that was equivalent to achievement and attitude under teacher decision making. Students appear to be as effective as teachers in determining content and study methods in the spelling curriculum. Theories of decision making must be developed which deal with decision making as it relates to the learning process.

Implications for Teaching

1. In situations where students can be involved in curriculum decision making, they may learn as willingly and satisfactorily as under teacher decision making.
2. Contracting is an effective technique for individualizing instruction and incorporating student decision making in the spelling curriculum.

Implications for Research

1. A full understanding of the effects of the degree of student decision making in the curriculum upon achievement and attitude would necessitate longitudinal studies. What would be the effects of student decision making over a longer period of time?
2. Student decision making effects might be interwoven with the quality of the negotiation between the teacher and student--especially with respect to the factors of

commitment, feedback, and success. What are the effects of the negotiation procedure upon achievement and attitude?

3. The students in this study were third, fourth, and fifth grade students. What are the effects of student decision making in more broadly representative samples of students?
4. This study focused on the spelling curriculum. What are the effects of student decision making in other areas of the curriculum?
5. The instruments used to gather data for this investigation were the Spelling Achievement Test and the Spelling Attitude Scale. What results might have been obtained if other instruments had been used?
6. The classrooms in this study were composed of students of many various levels of spelling achievement. Would similar results have been obtained from children who were spelling below grade level? For example, if students who were spelling one-half year below grade level were involved in a study similar to this one, what differences and interaction effects might be found?
7. The content of the spelling curriculum was based on The Follett Spelling Program word lists. Would different results have been obtained if students had developed their own class spelling word list? Would different results have been obtained if students had developed their individual word list?

APPENDIX A

SPELLING ACHIEVEMENT TEST

SPELLING ACHIEVEMENT TEST

Grade 3 Spelling List

Level 2

1.	father	1.	My father took me to the zoo.
2.	houses	2.	The brick houses on our street all have white doors.
3.	look	3.	Always look both ways before crossing the street.
4.	not	4.	Do not feed the animals.
5.	see	5.	Come see the new puppies.
6.	at	6.	I saw John at the store.
7.	do	7.	Please do your homework first.
8.	find	8.	Please help me find my books.
9.	helping	9.	John and Mary are helping me find my books.
10.	on	10.	I have a birthmark on my ankle.
11.	run	11.	Mark can run very quickly.
12.	then	12.	First we went out to dinner, then we went to the movies.
13.	went	13.	I went to the store.
14.	apple	14.	The apple is green.
15.	brown	15.	My new shirt is brown.
16.	cows	16.	My grandmother has two cows.
17.	him	17.	Let him take out the garbage.
18.	let	18.	Mom let me help make dinner.
19.	names	19.	All the streets in town have historical names.
20.	pretty	20.	My best friend is very pretty.

Level 3

1.	always	1.	She always looks both ways before crossing the street.
2.	freedom	2.	In class, we have the freedom to walk around.
3.	shout	3.	Don't shout so loudly.
4.	wall	4.	Don't get your fingerprints on the wall.
5.	end	5.	The end of the movie was sad.
6.	loving	6.	He was a loving child.
7.	stand	7.	I can stand on one foot for five minutes.
8.	aunts	8.	All of my aunts are short.
9.	hill	9.	David's house is at the top of the hill.
10.	sent	10.	My grandmother sent me a present.
11.	band	11.	My brother plays in a band.
12.	gave	12.	She gave me a puppy.
13.	strange	13.	The movie was strange.
14.	pack	14.	I can pack my suitcase.
15.	ever	15.	Don't ever go there.
16.	never	16.	You should never hitchhike.
17.	sing	17.	Joan can sing well.
18.	birds	18.	There are many birds at the zoo.
19.	kind	19.	Be kind to animals.
20.	rat	20.	I once saw a rat in an open field.

Grade 3 Spelling List

Level 4

1.	hide	1. Don't hide from me.
2.	wind	2. The wind is cold.
3.	middle	3. She is in the middle of the road.
4.	cannot	4. She cannot multiply.
5.	round	5. The ball is round.
6.	Indian	6. He is an American Indian.
7.	velvet	7. Her dress is blue velvet.
8.	ninety	8. John is ninety years old.
9.	cup	9. She broke the cup.
10.	speaker	10. He was a great speaker.

Level 5

1.	cottage	1. They live in a small cottage.
2.	spread	2. Please spread butter on my bread.
3.	grab	3. Can you grab the duck?
4.	awful	4. I feel awful.
5.	nineteen	5. She is nineteen years old today.
6.	dreamed	6. I dreamed about a horse last night.
7.	union	7. My father belongs to the union.
8.	experience	8. That was a great experience.
9.	aren't	9. Why aren't you going?
10.	piano	10. Can you play the piano?

SPELLING ACHIEVEMENT TEST

Grade 4 Spelling List

Level 3

1.	mat	1. He sat on the mat.
2.	bus	2. The bus stopped here.
3.	makes	3. He makes good grades.
4.	girls	4. The girls sang well.
5.	longer	5. He made it a little longer.
6.	large	6. The dog was large.
7.	making	7. They are making furniture.
8.	strange	8. The movie was strange.
9.	still	9. He couldn't sit still.
10.	sold	10. The house was sold.
11.	know	11. I know my spelling words.
12.	blow	12. It is time to blow up the balloon.
13.	pleased	13. She was pleased.
14.	teeth	14. His teeth are beautiful.
15.	faster	15. He ran faster.
16.	spring	16. The spring was broken.
17.	highest	17. Harold jumped the highest.
18.	wanted	18. He wanted more pizza.
19.	useful	19. The project was useful.
20.	blew	20. The wind blew.

Level 4

1.	able	1. Mary is quite able.
2.	hide	2. He could not hide.
3.	setting	3. The sun was setting.
4.	wind	4. The wind is cold.
5.	east	5. Go three miles to the east.
6.	middle	6. He was in the middle.
7.	secret	7. I have a secret.
8.	cannot	8. Sam cannot go.
9.	length	9. The length was twenty feet.
10.	round	10. The ball is round.
11.	blank	11. She drew a blank.
12.	Indian	12. The Indian was brave.
13.	shine	13. He needs to shine his shoes.
14.	velvet	14. The dress was velvet.
15.	enough	15. It is not enough.
16.	ninety	16. He was ninety years old.
17.	suddenly	17. The car stopped suddenly.
18.	cup	18. He had coke in his cup.
19.	planned	19. She planned a good meal.
20.	speaker	20. The speaker was great.

Grade 4 Spelling List

Level 5

1.	cottage	1. The cottage was pretty.
2.	spread	2. He spread butter on his roll.
3.	grab	3. Can you grab the duck?
4.	awful	4. It was awful.
5.	nineteen	5. John was nineteen.
6.	dreamed	6. She dreamed of the dance.
7.	union	7. The union was strong.
8.	experience	8. The experience was worthwhile.
9.	aren't	9. There aren't any potatoes.
10.	piano	10. The piano is out of tune.

Level 6

1.	assistant	1. He needs an assistant.
2.	chocolate	2. The chocolate milk is good.
3.	customer	3. We need a customer.
4.	election	4. The election is over.
5.	forward	5. All boys please step forward.
6.	introduce	6. I want to introduce you.
7.	nephew	7. His nephew is young.
8.	process	8. The process is effective.
9.	section	9. This section is reserved.
10.	transportation	10. We need better transportation.

SPELLING ACHIEVEMENT TEST

Grade 5 Spelling List

Level 4

1.	gets	1. He gets mad when he loses.
2.	prize	2. The prize was a new car.
3.	leaf	3. The last leaf fell from the tree.
4.	farms	4. He visited several farms.
5.	proud	5. I am proud of my little brother.
6.	hang	6. Please hang up your coat.
7.	which	7. Can you tell which one belongs to me?
8.	rolls	8. He rolls the ball to me every time.
9.	bought	9. He bought a new car.
10.	anyhow	10. John did it anyhow.
11.	heavy	11. The books are heavy.
12.	lady	12. The lady dropped her purse.
13.	turn	13. Don't turn around.
14.	begin	14. We will begin the race at three o'clock.
15.	listen	15. Please listen carefully.
16.	speaking	16. I am speaking to you.
17.	eighteen	17. She is eighteen years old.
18.	wants	18. He wants to go.
19.	apples	19. I like apples.
20.	bows	20. She put two bows in her hair.

Level 5

1.	adopt	1. I will adopt the kitten.
2.	cottage	2. They live in a small cottage.
3.	kindergarten	3. He goes to kindergarten.
4.	spread	4. Please spread butter on my bread.
5.	December	5. It gets cold in December.
6.	grab	6. Can you grab the duck?
7.	plow	7. He will plow the field.
8.	awful	8. I feel awful.
9.	fifth	9. He is in the fifth grade.
10.	nineteen	10. She is nineteen years old today.
11.	thousand	11. He owns a thousand sheep.
12.	dreamed	12. I dreamed I rode a horse.
13.	prepared	13. She is well prepared.
14.	union	14. His father belongs to the union.
15.	anxious	15. She was very anxious about the visit.
16.	experience	16. That was a great experience.
17.	ought	17. He ought to go to the concert.
18.	aren't	18. Why aren't you going?
19.	downstairs	19. They are downstairs playing records.
20.	piano	20. She plays the piano.

Grade 5 Spelling List

Level 6

1.	assistant	1. He is my assistant.
2.	chocolate	2. I like chocolate cake.
3.	customer	3. The customer is always right.
4.	election	4. He won the election.
5.	forward	5. You may move forward two places.
6.	introduce	6. Will you introduce me to your friend?
7.	nephew	7. He is my nephew.
8.	process	8. Learning to drive was a slow process.
9.	section	9. He lives in a new section of town.
10.	transportation	10. Do you have transportation to the airport?

Level 7

1.	approximately	1. He was approximately ten minutes late.
2.	canvas	2. The artist painted the canvas yellow.
3.	courteous	3. She is very courteous.
4.	enforce	4. He will enforce the law.
5.	glorious	5. That was a glorious sunset.
6.	lining	6. He tore the lining of the coat.
7.	nonsense	7. That's a lot of nonsense.
8.	production	8. He works on a production line.
9.	succeed	9. He will succeed.
10.	wreck	10. Did he wreck the car?

APPENDIX B

SPELLING ACHIEVEMENT TEST

ADMINISTRATION AND SCORING PROCEDURES

SPELLING ACHIEVEMENT TEST

Administration Procedures:

1. Be sure that all desks are cleared and that each child has paper, pencils, and a cover sheet.

2. Direct each child to:
   a. number the paper from one to sixty.
   b. write name and grade in the top right hand corner.

3. Begin the test by saying, "We would like to know how many words you can spell. This is quite a long list. Some of the words are easy and some are very difficult. Try to spell all the words the best you can."

4. Call out each word, use the word in a sentence, then repeat the word again in isolation. Follow this procedure for all sixty items in the test.

5. Collect all test papers.

Scoring Procedures:

In order for a word to be marked correct, the following specifications must be met:

1. Where necessary, capitalization is evident (Example: Indian).

2. "i"'s are dotted, "t"'s crossed, etc.

3. When a letter is ambiguous (example o and a), and there is some doubt, give the child the benefit of the doubt and count the word correct.

APPENDIX C

SPELLING ATTITUDE SCALE

BOY GIRL

GRADE_____

SPELLING ATTITUDE SCALE

Developed by Linda B. Gambrell

Listen to the following statements as I read them. If you agree with them or think they are true of you, circle Yes. If you disagree or think they are not true of you, circle No.

EXAMPLES:

1. Yes No I like dogs.
2. Yes No I do not like candy.

SPELLING ATTITUDE SCALE

Developed by Linda B. Gambrell

1.	Yes	No	There are many words I would like to learn to spell.
2.	Yes	No	I feel that studying spelling is a waste of time.
3.	Yes	No	The teacher tries to help me with my spelling.
4.	Yes	No	I give special attention to neatness on my spelling papers.
5.	Yes	No	I am well satisfied with the grades I get in spelling.
6.	Yes	No	Spelling class is a bore.
7.	Yes	No	I like to show my spelling papers to my parents.
8.	Yes	No	I lose interest in studying my spelling list after a day or two.
9.	Yes	No	Spelling is my favorite subject.
10.	Yes	No	I can learn to spell any word if I study it long enough.
11.	Yes	No	Studying spelling with a partner is a waste of time.
12.	Yes	No	There should be more time for studying spelling during the school day.
13.	Yes	No	My grades in spelling are very poor.
14.	Yes	No	Spelling is fun.
15.	Yes	No	I find it very difficult to do as well as I would like to do in spelling.
16.	Yes	No	Spelling class is something I could do without.
17.	Yes	No	Making a good mark in spelling is rewarding to me.
18.	Yes	No	I feel that I should be given more choice in the way I want to study my spelling words.
19.	Yes	No	My parents think that I am doing well in spelling.

20. Yes No I usually get the grade I deserve on spelling tests.

21. Yes No When my assigned spelling words are too hard, I become discouraged and quit studying.

22. Yes No I hesitate to ask the teacher for help in spelling class.

23. Yes No I feel there is nothing to be gained from learning to spell.

24. Yes No I show my spelling papers to my parents.

25. Yes No It is impossible for me to learn all the spelling words assigned to me each week.

26. Yes No The teacher thinks I am doing well in spelling.

APPENDIX D

SPELLING ATTITUDE SCALE

ADMINISTRATION PROCEDURES

SPELLING ATTITUDE SCALE
ADMINISTRATION PROCEDURES

1. This scale is to be read aloud to the class. Read each item aloud; pause briefly; repeat the item.

2. Have pupils clear their desks.

3. Each pupil will need a pencil with an eraser and a cover sheet.

4. Read these directions aloud to the pupils:

"Mrs. Gambrell is interested in finding out how you feel about spelling. We are going to read some statements and decide if we agree or disagree with them. There are no right or wrong answers--what you think is the best answer for you is the very best answer.

You may use the cover sheet to cover your paper. This does not have anything to do with your grade in spelling and I will not even see your papers. The papers will go directly to Mrs. Gambrell. To do your very best on this test, answer each item as honestly as you can.

Now let's look at the first page. Circle BOY or GIRL at the top of the page. In the blank write your grade."

5. Read the directions as they are printed on the first page of the test. Proceed by reading the examples to the children and having them circle the appropriate answer. Repeat the directions as frequently as the ages and habits of your pupils suggest. When you are satisfied that they understand the directions, proceed with test administration by saying, "Answer each item as honestly as you can and be sure to answer every item."

APPENDIX E

IN-SERVICE TRAINING SESSION

TREATMENT GROUP 1

GENERAL PROCEDURES - TREATMENT GROUP 1

1. Classes will use The Follett Spelling Program multi-level word lists for their grade level as the basis for their spelling lessons.

2. Spelling will be taught on Tuesday, Wednesday and Thursday mornings (at a time specified by each teacher) for no less than fifteen minutes and no longer than thirty minutes.

3. The study plan will be the pretest, study, final test method.

   Pretest - There will be a pretest given every Monday to determine the words the child already knows. Each child will correct his own pretest paper while the teacher circulates to spot-check as necessary.

   Study - On Tuesday, Wednesday and Thursday, the method of study will be teacher-directed (according to the Follett Spelling Manual).

   Final Test - A final test will be given every Friday to determine the degree of mastery of the words. The teacher will correct the final test papers.

4. Correctly spelled words on the pretest and the final test will be highlighted with a checkmark. Incorrectly spelled words will not be highlighted. Praise will be given for 100% success (as defined in each treatment group). The marking "100%" will be written on each paper along with a comment written by the teacher. Teacher comments such as the following would be appropriate:
   Nice Work, (child's name)!
   Very good, (child's name)!
   Keep up the good work, (child's name)!
   Excellent paper, (child's name)!
   On papers with less than 100% success the total number correct will be written at the top of the page.

5. Home study of the spelling list will not be encouraged, and spelling homework will not normally be assigned.

6. Substitute teachers will be given an outline of procedures to be followed for spelling instruction. (Procedures - Treatment Group 1)

7. Teachers and pupils will record pretest and final test information (Forms 1, 1-A, and 1-B).

8. Teachers will decide individually when children are absent too many days to profit from spelling for that week. In such cases, the word "absent" should be entered on the Spelling Record.

PROCEDURES - TREATMENT GROUP 1

Pretest - Monday

1. The teacher conducts the pretest on Monday.
2. Children correct their own papers and indicate the number of correctly spelled words while the teacher circulates to spot-check if necessary.
3. Children in the Refresher Group who get 80% or better on the pretest will be assigned the first five words from the Basic list.
4. Children in the Basic Group who get 80%-95% on the pretest will be assigned the first ten words from the Power list.
5. Children in the Basic Group who score 100% will be assigned all twenty words from the Power list.
6. The teacher will collect the pretest papers to record the number right for each child and the number of words assigned for study (See Form 1).

Study - Tuesday, Wednesday, Thursday

Teacher-directed instruction will follow the procedures in The Follett Spelling Manual, for example:

Tuesday - word patterning activities
Wednesday - self-test
Thursday - written expression

Final Test - Friday

1. The teacher conducts the final test on Friday.
2. Final test papers will be collected and marked by the teacher.
3. The number correct for each child will be recorded (See Form 1).

Administration of the Pretest and Final Test

1. The teacher may give tests to the Basic and Refresher groups at the same time, dictating the first Basic list word to the Basic group and then dictating the first Refresher list word to the Refresher group, and so on.
2. Since a child may be assigned words from two lists the paper may be divided into two columns (either Refresher and Basic or Basic and Power). A child's paper might look like this for the final test:

Refresher	Basic
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	
8.	
etc.	

3. In giving the tests, the teacher will pronounce the word, read the phrase or sentence containing the spelling word, and then repeat the word again in isolation.

Marking Procedure

1. Children who spell all assigned words correctly on their lists will have their papers marked with "100%" and a positive comment written by the teacher.

2. Children who get less than 100% will have their papers marked with the total of correctly spelled words.

3. In giving the tests, the teacher will pronounce the word, read the phrase or sentence containing the spelling word, and then repeat the word again in isolation.

Marking Procedure

1. Children who spell all assigned words correctly on their lists will have their papers marked with "100%" and a positive comment written by the teacher.

2. Children who get less than 100% will have their papers marked with the total of correctly spelled words.

Form 1

SPELLING RECORD - REFRESHER GROUP
Teacher's Form

Teacher: _____

Grade: _____

School: _____

PT = Pretest (number correct)
A = Words assigned (number on pretest plus assigned words)
FT = Final Test Score
DATE = Final Test Date

	DATE:			DATE:			DATE:			DATE:		
Child	PT	A	FT	PT	A	FT	PT	A	FT	PT	A	FT
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

Form 1-A

SPELLING RECORD - BASIC GROUP
Teacher's Form

Teacher: _____

Grade: _____

School: _____

PT = Pretest (number correct)
A = Words assigned (number on pretest plus assigned words)
FT = Final Test Score
DATE = Final Test Date

	DATE:			DATE:			DATE:			DATE:		
Child	PT	A	FT	PT	A	FT	PT	A	FT	PT	A	FT
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

Form 1-B - Child's Form

SPELLING RECORD

Name: _____

Teacher: _____

Grade: _____

School: _____

Pretest - Number correct

Assigned - Total number assigned (Pretest words plus assigned words)

Final Test - Total number correct

Week	Pretest	Assigned	Final Test
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

APPENDIX F

IN-SERVICE TRAINING SESSION

TREATMENT GROUP 2

GENERAL PROCEDURES - TREATMENT GROUP 2

1. All classes will use The Follett Spelling Program multi-level word lists for their grade level as the basis of their spelling lessons.

2. Spelling will be taught on Tuesday, Wednesday and Thursday mornings (at a time specified by each teacher) for no less than fifteen minutes and no longer than thirty minutes.

3. The study plan will be the pretest, study, final test method.

   Pretest - There will be a pretest given every Monday to determine the words the child already knows. Each child will correct his own pretest paper while the teacher circulates to spot-check as necessary.

   Study - On Tuesday, Wednesday and Thursday, the method of study will be teacher-directed (according to the Follett Spelling Manual).

   Final Test - A final test will be given every Friday to determine the degree of mastery of the words. The teacher will correct the final test papers.

4. Correctly spelled words on the pretest and the final test will be highlighted with a checkmark. Incorrectly spelled words will not be highlighted. Praise will be given for 100% success (as defined in each treatment group). The marking "100%" will be written on each paper along with a comment written by the teacher. Teacher comments such as the following would be appropriate:
   Nice work, (child's name)!
   Very good, (child's name)!
   Keep up the good work, (child's name)!
   Excellent paper, (child's name)!
   On papers with less than 100% success the total number correct will be written at the top of the page.

5. Home study of the spelling list will not be encouraged, and spelling homework will not normally be assigned.

6. Substitute teachers will be given an outline of procedures to be followed for spelling instruction (Procedures - Treatment Group 2).

7. Teachers and pupils will record pretest and final test information (Forms 2, 2-A and 2-B).

8. Teachers will decide individually when children are absent too many days to profit from spelling for that week. In such cases, the word "absent" should be entered on the Spelling Record.

PROCEDURES - TREATMENT GROUP 2

Pretest - Monday

1. The teacher conducts the pretest on Monday.
2. Children correct their own pretest papers and indicate the number of correctly spelled words.
3. Each child will indicate how many words and which words he wants to contract to learn on the pretest paper. The contract will consist of all the words the child has spelled correctly on the pretest (which he will mark with a checkmark) plus those words he agrees to learn (which he writes correctly on his paper and circles).* Children who get 80% or better on the pretest may contract for additional words from the next higher level. The Refresher Group may choose words from the Basic list, and the Basic Group may choose words from the Power list.
4. The teacher and the child negotiate a contract for the spelling words to be learned. The idea here is that the child should be encouraged to select a number of words all of which after three days of study he will be able to spell on a post-test.
5. The teacher will then collect the pretest papers to check each child's computation, to record pretest scores, and to negotiate the week's contract. The teacher's objective should be that no child should go more than two consecutive weeks making less than 100% on the final test. If children fall too short of the contracted number, the next negotiation should be made to help the child select fewer words or to reconsider the method used to study the words.**
6. Pretest papers will be handed back to the children before study time on Tuesday morning, and they will record their contract agreements (See Form 2-B).

Study days - Tuesday, Wednesday, Thursday

Teacher-directed instruction will follow the procedures in The Follett Spelling Manual, for example:

Tuesday - word patterning activities
Wednesday - self-test
Thursday - written expression

Final Test - Friday

1. On Friday the children will take the final test.
2. The children will refer to their spelling lists and the circled words for which they have contracted.

---

*All contracted words should be circled in the child's spelling book in case the pretest paper is lost or misplaced.

**Remember, the aim is for each child to make 100% of his contract.

3. On their spelling test papers they will circle the number of each word for which they have contracted, and if they desire, they may put checks by any additional words which they might have learned during the week.
4. As the teacher calls out the list, each child must try to spell every word he has contracted for plus those he has checked.
5. The teacher will collect and mark all final test papers and record the number of words spelled correctly on the final test. The checked words will not be counted in the child's score if he gets them wrong, but he is credited with them in the total number of correctly spelled words. In individual conferences, the teacher should discourage the checking of additional words by children who continually misspell these words.

Administration of the Pretest and Final Test

1. The teacher may give the test to the Basic and Refresher groups at the same time, dictating the first Refresher list word, then the first Basic list word, and then the first Power list word. Children may be contracting for words on two lists (Refresher and Basic or Basic and Power) if they got 80% or better on the pretest. A child's paper might look like this:



2. In giving the test, the teacher will pronounce the word, read the phrase or sentence containing the spelling word, and then repeat the word again in isolation.

Marking procedure

1. Children who spell all contracted words (circles on their paper) correctly will have their papers marked with "100%" and a positive comment from the teacher.
2. Children who spell less than 100% correctly will have their papers marked with the number of correctly spelled words.

Form 2

SPELLING RECORD - REFRESHER GROUP
Teacher's Form

Teacher: _____

Grade: _____

School: _____

PT = Pretest (number correct)
C = Words contracted (total)
FT = Final Test Score (number correct)
DATE = Final Test Date

	DATE:			DATE:			DATE:			DATE:		
Child	PT	C	FT	PT	C	FT	PT	C	FT	PT	C	FT
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

Form 2-A

SPELLING RECORD - BASIC GROUP
Teacher's Form

Teacher: _____

Grade: _____

School: _____

PT = Pretest (number correct)
C = Words contracted (total)
FT = Final Test Score (number correct)
DATE = Final Test Date

	DATE:			DATE:			DATE:			DATE:		
Child	PT	C	FT	PT	C	FT	PT	C	FT	PT	C	FT
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

Form 2-B - Child's Form

SPELLING CONTRACT

Name:_____

Teacher:_____

Grade:_____

School:_____

Code:

1. Pretest - Number correct
2. To be Learned - Number of words chosen for study
3. Contract - Number correct on pretest plus words chosen for study
4. Teacher Initial - Teacher's initial for contract agreement
5. Final Test - Number correct

Week	Pretest	To be Learned	Contract	Teacher Initials	Final Test	Check if Contract Was Met
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

APPENDIX G

IN-SERVICE TRAINING SESSION

TREATMENT GROUP 3

GENERAL PROCEDURES - TREATMENT GROUP 3

1. All classes will use The Follett Spelling Program multi-level word lists for their grade level as the basis of their spelling lessons.

2. Spelling will be taught on Tuesday, Wednesday and Thursday mornings (at a time specified by each teacher) for no less than fifteen minutes and no longer than thirty minutes.

3. The study plan will be the pretest, study, final test method.

   Pretest - There will be a pretest given every Monday to determine the words the child already knows. Each child will correct his own pretest paper while the teacher circulates to spot-check as necessary.

   Study - On Tuesday, Wednesday and Thursday the method of study will be pupil-directed.

   Final Test - A final test will be given every Friday to determine the degree of mastery of the words. The teacher will correct the final test papers.

4. Correctly spelled words on the pretest and the final test will be highlighted with a checkmark. Incorrectly spelled words will not be highlighted. Praise will be given for 100% success (as defined in each treatment group). The marking "100%" will be written on each paper along with a comment written by the teacher. Teacher comments such as the following would be appropriate:
   Nice work, (child's name)!
   Very good, (child's name)!
   Keep up the good work, (child's name)!
   Excellent paper, (child's name)!
   On papers with less than 100% success the total number correct will be written at the top of the page.

5. Home study of the spelling list will not be encouraged, and spelling homework will not normally be assigned.

6. Substitute teachers will be given an outline of procedures to be followed for spelling instruction (Procedures - Treatment Group 3).

7. Teachers and pupils will record pretest and final test information (Forms 3, 3-A, and 3-B).

8. Teachers will decide individually when children are absent too many days to profit from spelling for that week. In such cases, the word "absent" should be entered on the Spelling Record.

PROCEDURES - TREATMENT GROUP 3

Pretest - Monday

1. The teacher conducts the pretest on Monday.
2. Children correct their own pretest papers and indicate the number of correctly spelled words.
3. Each child will indicate how many words and which words he wants to contract to learn on the pretest paper. The contract will consist of all the words the child has correct on the pretest (which he will mark with a check-mark) plus those words he agrees to learn (which he writes correctly on his paper and circles).* Children who get 80% or better on the pretest may contract for additional words from the next higher level. The Refresher Group may choose words from the Basic list, and the Basic Group may choose words from the Power list.
4. The teacher and the child negotiate a contract for the spelling words to be learned. The idea here is that the child should be encouraged to select a number of words all of which after three days of study he will be able to spell on a post-test.
5. The teacher will then collect the pretest papers to check each child's computation, to record pretest scores, and to negotiate the week's contract. The teacher's objective should be that no child should go more than two consecutive weeks making less than 100% on the final test. If children fall too short of the contracted number, the next negotiation should be made to help the child select fewer words or to reconsider the method used to study the words.**
6. Pretest papers will be handed back to the children before study time on Tuesday morning, and they will record their contract agreements (See Form 3-B).

Study days - Tuesday, Wednesday, Thursday

1. Tuesday, Wednesday and Thursday the children will study their words using the methods of their choice.
2. They will select their study method or methods from the list below, which should be charted and displayed in a prominent place in the classroom.

    1. Spell each word out loud to a partner.
    2. Have a partner call out the words as you write them.
    3. Use each word in a sentence.
    4. Write a story using ten of your spelling words.

---

*All contracted words should be circled in the child's spelling book in case the pretest paper is lost or misplaced.

**Remember, the aim is for each child to make 100% of his contract.

5. Look up the words in the dictionary and record the different meanings.
6. Trace each word while saying the word (according to the Follett tracing method).

3. Again, the teacher may negotiate with the child when she feels he is not using the appropriate study techniques to be successful.
4. Each day the child will record the number of the method he used for spelling study on his contract form (See Form 3-B).
5. Each of the study procedures will be introduced to the total class the first week of the study, prior to the time allotted for spelling instruction. The teacher will describe the procedure and have the total class practice each method as it is introduced. The methods of study will be introduced as follows

   Tuesday - Methods 1 and 2
   Wednesday - Methods 3 and 4
   Thursday - Methods 5 and 6

Final Test - Friday

1. On Friday the children will take the final test.
2. The children will refer to their spelling lists and the circled words for which they have contracted.
3. On their spelling test papers, they will circle the number of each word for which they have contracted, and if they desire, they may put checks by any additional words which they might have learned during the week.
4. As the teacher calls out the list, each child must try to spell every word he has contracted for plus those he has checked.
5. The teacher will collect and mark all final test papers and record the number of words spelled correctly on the final test. The checked words will not be counted in the child's score if he gets them wrong, but he is credited with them in the total number of correctly spelled words. In individual conferences, the teacher should discourage the checking of additional words by children who continually misspell these words.

Administration of the Pretest and Final Test

1. The teacher may give the test to the Basic and Refresher groups at the same time, dictating the first Refresher list word, then the first Basic list word, and then the first Power list word. Children may be contracting for words on two lists (Refresher and Basic or Basic and Power) if they got 80% or better on the pretest. A child's paper might look like this:



2. In giving the test, the teacher will pronounce the word, read the phrase or sentence containing the spelling word, and then repeat the word again in isolation.

Marking Procedure

1. Children who spell all contracted words (circles on their paper) correctly will have their papers marked with "100%" and a positive comment from the teacher.
2. Children who spell less than 100% correctly will have their papers marked with the total number of correctly spelled words.

Form 3

SPELLING RECORD - REFRESHER GROUP
Teacher's Form

Teacher: _____

Grade: _____

School: _____

PT = Pretest (number correct)
C = Words contracted (total)
FT = Final Test Score (number correct)
DATE = Final Test Date

	DATE:			DATE:			DATE:			DATE:		
Child	PT	C	FT	PT	C	FT	PT	C	FT	PT	C	FT
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

Form 3-A

SPELLING RECORE - BASIC GROUP
Teacher's Form

Teacher: _____

Grade: _____

School: _____

PT = Pretest (number correct)
C = Words contracted (total)
FT = Final Test Score (number correct)
DATE = Final Test Date

	DATE:			DATE:			DATE:			DATE:		
Child	PT	C	FT	PT	C	FT	PT	C	FT	PT	C	FT
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												
11.												
12.												
13.												
14.												
15.												
16.												
17.												
18.												
19.												
20.												

Form 3-B - Child's Form

SPELLING CONTRACT

Name: _____

Teacher: _____

Grade: _____

School: _____

Code:

1. Pretest - Number correct
2. To be Learned - Number of words chosen for study
3. Contract - Number correct on pretest plus words chosen for study
4. Teacher Initial - Teacher's initial for contract agreement
5. Study Method - Record the number of the study method used
6. Final Test - Number correct

Week	Pretest	To be Learned	Contract	Teacher Initials	Study Method			Final Test	Check if Contract Was Met
					T	W	T		
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

APPENDIX H

SUPPLEMENTAL MATERIALS FOR IN-SERVICE TRAINING

SAMPLE SPELLING LIST

Refresher List	Basic List	Power List
1. culture	1. habitat	1. wattlebird
2. immigrate	2. immaculate	2. yammer
3. scenario	3. mandate	3. pyromorphite
4. nature	4. sensitize	4. Pythagorean
5. operate	5. gastronomy	5. reverberate
6. remarkable	6. hypnotherapy	6. ecological
7. hydrogen	7. impaction	7. cosmonaut
8. mildew	8. judgmatic	8. battalion
9. stream	9. shanty	9. archaic
10. remove	10. raccoon	10. curacy

CONTRACT SPELLING - EXAMPLE

Name: John Smith									
Week	Pretest	To be Learned	Contract	Teacher Initials	Study Method			Final Test	Check if Contract Was Met
					T	W	T		
1.	10	5	15	SJ	1	6	2	15	
Did John make his contract? Did he seem to over-use one method for study? What types of remarks would you make to John during a conference concerning his week's work?									
2.	12	8	20	SJ	1	1	1	14	
Did John make his contract this week? Did he make good choices on methods? What types of remarks would you make to John during this week's conference?									
3.	12	4	16	SJ	6	2	6	17	
Did John make his contract this week? Did he make good choices on methods? What comments might you make to John concerning methods of study?									

Study Methods:

1. Spell each word out loud to a partner.
2. Have a partner call out the words as you write them.
3. Use each word in a sentence.
4. Write a story using ten of your spelling words.
5. Trace words while saying the word.
6. Look up the words in the dictionary and record the different meanings.

APPENDIX I

MONITORING PRACTICE SHEET

MONITORING PRACTICE SHEET

You observe the following behaviors in a classroom. Record your observations on the Monitoring Checklist Forms.

EXAMPLE #1 Monday

The teacher conducts the pretest. The children correct their own pretest papers and indicate the number of words and which words they want to learn. The child and the teacher negotiate the contract. The child records his weekly contract.

EXAMPLE #2 Monday

The teacher conducts the pretest. After the pretest the children correct their own papers while the teacher circulates to help them. On the board the teacher has posted a sign which reads:

*If you get 80% or better on the pretest your assignment is the Basic list plus the first five words from the next list.
*If you get 100% on the pretest your assignment is the basic list plus the first ten words from the next list.

EXAMPLE #3 Tuesday

The teacher is following the Botel procedure as described in the manual. The pupils are working on the appropriate activity. The teacher is available to help children individually, if necessary.

EXAMPLE #4 Wednesday

The pupils are engaged in independent study of the spelling words. You notice that one child is writing sentences and several pairs of students are calling out words to each other. The teacher is available to help children individually. On the board there is a list of alternatives for studying spelling words.

APPENDIX J

MONITORING CHECKLIST FORMS

MONITORING CHECKLIST - PRETEST DAY - MONDAY

Yes	No	
___	___	Teacher conducts pretest.
___	___	Pupils correct their own pretest papers.
___	___	The teacher spot-checks pupil computation on the pretest.
___	___	The teacher assigns the words to be learned.
___	___	Pupils indicate the words they choose to study and the number of words they choose to study.
___	___	Pupils fill out a contract agreement.
___	___	The teacher initials the contract agreement.

Teacher:_____

School:_____

Grade:_____

Observer:_____

Date:_____

Time:_____

MONITORING CHECKLIST - STUDY DAYS- TUESDAY, WEDNESDAY, THRUSDAY

Yes	No	
___	___	The teacher follows the lesson plan according to The Follett Spelling Manual.
___	___	Pupils work in the Follett workbook on the appropriate activity.
___	___	Pupils select and direct their own method of study.
___	___	The teacher monitors and assists independent study as necessary.
___	___	Pupils are using different methods of study.
___	___	Methods of spelling study are charted for easy reference.

The instructional period lasted _____ minutes.

Teacher:_____

School:_____

Grade:_____

Observer:_____

Date:_____

Time:_____

APPENDIX K

SUPPLEMENTARY TABLES

Treatment Group 1 - Class Means

	Spelling Achievement Test (Pretest)	Spelling Achievement Test (Post-Test)	Number of Words Spelled Correctly on Weekly Tests	Spelling Attitude Scale
Grade 3				
Classroom 1	44.200	46.550	284.350	19.500
2	39.400	43.280	301.28	21.440
3	47.357	51.179	353.893	22.000
4	44.333	48.963	325.963	20.630
5	45.167	49.292	299.083	19.875
Grade 4				
Classroom 1	43.160	47.760	348.200	18.520
2	46.714	55.429	359.643	22.143
3	38.207	42.103	298.103	20.138
4	40.435	44.522	302.652	17.565
5	34.444	39.111	240.148	20.704
Grade 5				
Classroom 1	29.923	33.192	237.000	18.885
2	28.077	34.923	227.692	17.692
3	33.760	37.280	241.880	19.400
4	40.500	55.091	248.864	14.818

Treatment Group 2 - Class Means

	Spelling Achievement Test (Pretest)	Spelling Achievement Test (Post-Test)	Number of Words Spelled Correctly on Weekly Tests	Spelling Attitude Scale
Grade 3				
Classroom 1	42.150	47.800	299.550	19.300
2	43.286	46.714	360.190	21.238
3	44.529	49.059	334.352	18.294
4	43.615	46.192	266.269	18.923
Grade 4				
Classroom 1	35.730	42.038	322.460	17.231
2	45.714	49.286	341.857	19.286
3	44.750	51.167	355.333	20.083
4	33.312	38.625	342.250	19.724
5	44.07	45.357	349.821	17.071
Grade 5				
Classroom 1	43.714	47.893	279.714	18.928
2	33.615	36.538	302.653	16.640
3	27.905	33.952	288.238	16.190
4	35.571	37.762	249.429	17.381

Treatment Group 3 - Class Means

	Spelling Achievement Test (Pretest)	Spelling Achievement Test (Post-Test)	Number of Words Spelled Correctly on Weekly Tests	Spelling Attitude Scale
Grade 3				
Classroom 1	41.714	47.607	261.286	18.607
2	40.115	43.965	304.077	18.923
3	37.481	41.926	281.556	20.481
4	46.267	51.733	300.433	22.333
Grade 4				
Classroom 1	37.067	40.200	328.833	19.621
2	40.767	45.133	339.400	19.154
3	36.556	39.778	326.667	18.550
4	42.517	46.690	305.276	21.333
5	42.750	48.375	273.542	20.083
Grade 5				
Classroom 1	43.375	47.188	417.938	18.500
2	41.000	44.077	224.654	21.192
3	41.893	45.893	352.250	19.214
4	43.704	46.667	402.889	19.630

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