A COMPARISON OF THE EFFECTS OF A SYSTEMATIC INSTRUCTIONAL STRATEGY AND BASAL-READER-ORIENTED INSTRUCTIONAL STRATEGIES ON ELEMENTARY PUPIL ACHIEVEMENT OF PHONIC WORD-ATTACK SKILLS

DISSERTATION

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By

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The problem with which this investigation is concerned is that of identifying training procedures for helping teachers to become more effective at reading instruction. The two methods for determining this are presented as basal-reader-oriented instructional strategies (Treatment I), and a systematic instructional strategy (Treatment II). The assumption is made that the use of a systematic model for instruction is superior to the basal approach for instruction when teaching phonic word-attack skills in grades three and four.

The purpose of this study was to compare the effectiveness of the two instructional strategies for six phonic word-attack skills objectives and to focus on the following specific questions:

(a) When student teachers use a basal-reader-oriented strategy (Treatment I) for teaching phonic word-attack skills, what will be the effects on elementary pupil achievement of these skills?
(b) When student teachers use a systematic instructional strategy (Treatment II) for teaching phonic word-attack skills, what will be the effects on elementary pupil achievement of these skills?

(c) How will the effects of these strategies compare?

Written criterion-referenced phonic word-attack skills pre-tests were administered to approximately 110 third and fourth grade pupils. The validity of the criterion-referenced tests was judged by a team of reading specialists from North Texas State University. The reliability coefficients of the tests ranged from .57 to .93 and all were significant at the .01 level.

On the basis of the pre-test data, pupils who scored eighty percent or less were randomly assigned to groups of from four to six pupils at their grade level. These teachable groups were then randomly assigned to one of fourteen student teachers, seven of whom had been previously taught to use a basal-reader-oriented instructional strategy (Treatment I) and seven who had previously been taught to use a systematic instructional strategy (Treatment II) for teaching phonic word-attack skills. The lessons did not exceed twenty minutes. Immediately following instruction each of the groups was post-tested with an alternate form of the pre-test.

The post-tests means were compared for the two treatment groups through analysis of covariance with the pre-test means
serving as covariates. This procedure was followed for each of the six phonic word-attack skills objectives.

Of the six skills objectives tested two were found to be significant at the .05 level favoring the group of student teachers using systematic procedures. When a comparison was made for total performance of the two treatment groups for the combined six phonic word-attack skills objectives a significant difference was found at the .05 level in favor of the Treatment II group (systematic instructional strategy).

This report concludes that when elementary pupil achievement of phonic word-attack skills is used as the criterion for student teacher effectiveness then training in the conscientious application of systematic instructional procedures incorporating research validated learning principles is a more effective procedure than requiring student teachers to follow the recommended procedures in basal readers. It also concludes that the ability of student teachers to affect the learning of phonic word-attack skills by elementary students increases with practice; however, this ability appears to increase at a greater rate for those trained in systematic instructional procedures than for those who are trained to use the basal reader.
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CHAPTER I
INTRODUCTION

There has been, to date, a general discontent with existing teacher education courses and practices. The emphasis on results, the development of behavioral objectives, and an increased public emphasis on the personalization of instruction have been in part a result of this discontent (8, p. 4).

There is a current movement underway in education which has been labeled "Competency-based." This movement is characterized as "a contemporary social movement that has the potential for dealing in an integrated way with goals and values, decision processes, and related techniques in education" (26, p. 181). Inherent in this movement is the commitment by educators, that every child shall learn (8, p. 11). The ultimate goal is the maximal employment of consequence objectives (16, p. 7).

This study focuses on consequence objectives which involve the ability of teachers to effect positive changes in learner behavior. The concern of this study is how to more effectively train student teachers to achieve favorable consequences in terms of student learning of phonic word-attack skills.
Purposes of the Study

The purpose of this study was to compare the effectiveness of a systematic instructional strategy and basal-reader-oriented strategies for teaching phonic word-attack skills to children in elementary school grades three and four. The study focused on the following specific questions:

(a) When student teachers use a basal-reader-oriented strategy (Treatment I) for teaching phonic word-attack skills, what will be the effects on elementary pupil achievement of these skills?

(b) When student teachers use a systematic instructional strategy (Treatment II) for teaching phonic word-attack skills, what will be the effects on elementary pupil achievement of these skills?

(c) How will the effects of these strategies compare?

Hypotheses

To carry out the purposes of this study one hypothesis was tested for each of six phonic word-attack skills objectives. The hypothesis for each objective was as follows: Student teachers using a systematic instructional strategy (Treatment II) will produce significantly greater achievement of phonic word-attack skills in elementary pupils than student teachers using a basal-reader-oriented instructional strategy (Treatment I) on each of the following six phonic word-attack skills objectives.
H$_1$: The elementary pupil will be able to differentiate between long and short vowels when they are presented in dictated words (Objective 7).

H$_2$: The elementary pupil will be able to identify the vowel heard in a dictated word and record whether its sound is long, short, or "r" controlled (Objective 7.1).

H$_3$: The elementary pupil will be able to identify the letters representing the vowel diphthongs ("oi," "oy," "ou," "ow") or digraphs ("au," "aw," "ew," "eu") he hears when these sounds are dictated (Objective 7.2).

H$_4$: The elementary pupil will be able to indicate the vowels he hears in dictated words of one or more syllables (Objective 8).

H$_5$: The elementary pupil will be able to apply two vowel principles by indicating if the vowel is long or short in monosyllable nonsense words. The vowel principles are: (1) A single vowel at the beginning or middle of a word usually has the short sound, and (2) when there is only one vowel in a word, it is usually long if it comes at the end of the word (Objective 9).

H$_6$: The elementary pupil will be able to apply the "final-e" vowel principle by indicating if the first vowel is long or short in monosyllable nonsense words. The vowel principle states: When there are two vowels in a word that ends in "e", the first vowel usually has the long sound and the final "e" is not sounded (Objective 10).
There will be a significant difference in favor of student teachers using the systematic instructional strategy (Treatment II) on total performance for the combined six phonic word-attack skills objectives.

Significance of the Study

The problems associated with reading instruction are widely recognized by educators. During the last decade numerous programs were developed that presented a variety of approaches for teaching beginning readers (6, pp. 554-574), yet there is little evidence today which indicates that these attempts have made any significant difference in the reading achievement of children.

Popham and Baker assert, "It is not surprising that many teachers are relatively unsophisticated regarding the instructional process. The majority have been trained through the use of approaches that border on the 'mystical'" (16, pp. 1-2). Most teacher preparation courses in American institutions, they contend, foster a form of imitative behavior in pre-service teachers and student teaching experiences does not help the prospective teacher learn how to teach (16, p. 2). Stratemeyer sees this as critical when she writes,

In the area of professional responsibilities in the years ahead it is required that the professional educator, first, have advanced and technical knowledge basic to discharging his functions. He must be a specialist in the teaching-learning process (18, p. 44).
Most teachers in America use basal readers as the source for their reading instruction. Proponents of this approach have traditionally focused on means-referenced criteria. This infers that by a teacher's competent use of the materials instructional effectiveness will be forthcoming (22).

Popham and Baker (16) and Tyler (2) suggest that a systematic instructional strategy is an effective means for improving instruction. They say it is now possible to "transmit to teachers a set of tangible competencies that will aid them in their instructional endeavors" (16, p. 3). The instructional model they advocate requires the teacher to be attentive to the learner. The focus is goal-referenced and asks the question of "what happens to learners as a result of the procedures used in instruction" (16, p. 11)?

In the absence of reliable pupil performance criterion measures of teacher effectiveness educators cannot at this time make a valid judgement as to what makes a teacher successful. However, if teacher educators are to be held accountable for the competency of pre-service teachers, then it would seem appropriate that strategies for enabling pre-service teachers to bring about favorable teaching results should be investigated.

Weber and Rathbone state:

Collegiate education for the professional educator must be planned education. Much more is required than the presently all too common hit-or-miss collections of courses and credits. Competence to teach cannot be conceived as a byproduct of
becoming a well educated person. The educative cycle is incomplete until it has entered the phase of demonstratable competence to perform (25, p. 49).

A study by Justiz seems to have generated one of the first reliable measures of general teaching ability based on pupil performance (9, p. 54). The findings that are applicable to this study are (1) teacher ability may be assessed when all teachers in a group are provided with an equal opportunity to produce effective results, and (2) the validity of the pupil achievement criterion depends on the discriminating power of the objectives (9, p. 55).

Today a question being asked is, "what happens to the learner as a consequence of the procedures used in the instruction (16, p. 10)?" Taxpayers are asking this question and it is the obligation of educators to answer it. Researchers must go back, take stock of their position, and realize that the starting place for making favorable changes in learner behavior must be the systematic design of teaching methods (20).

The task of those engaged in teacher education then is to identify training procedures which are the most effective for equipping pre-service teachers to bring about favorable consequences in terms of learning by their students. An issue which continues to be of concern is the teaching of reading. A number of approaches to teaching reading are language experience, whole-word, and the phonic or sounding approach. This study was directed toward the phonic approach.
Assuming that phonic word-attack skills are necessary, and Harris (7, p. 8) and Wallen (21) contend they are, it seems reasonable that investigations should be conducted to determine the best way to equip pre-service teachers for teaching them. Karlin says that many teachers feel insecure in their ability to teach a child to read effectively (10, p. 2). The problem this poses for teacher education is how best to help teachers develop the competencies needed for teaching children to read. There appears to be a need (1) to identify instructional strategies with demonstrated effectiveness in terms of affecting pupil learning and (2) to explore methods for helping pre-service teachers adapt these strategies to their own mode of teaching. This present study was designed to compare the effects of Popham and Baker's Systematic Model of Instruction and basal-reader-oriented instruction on elementary pupil achievement of phonic word-attack skills.

Definition of Terms

For the purposes of this study these terms are defined as follows:

The Systematic Instructional Model is based on the work of James Popham (15, 16). It consists of following a number of instructional principles which have been shown to have a positive effect on learning. A systematic strategy may be used in all areas of the curriculum. The model involves
five essential components and may be identified in the following way (See Appendix A):

1. Task analysis--determines what prerequisite skills are needed in order to accomplish the objective.

2. Revealing the objective--gives the student prior knowledge of the task.

3. Perceived purpose--helps the student see reasons why he is doing the task.

4. Appropriate practice--provides the student with the opportunity for practicing the behavior specified in the objective.

5. Knowledge of results--provides the student with continuous feedback on how he stands in relation to the objective.

**Basal-Reader-Oriented Strategies** are strategies in the teachers' guides of basal reader series adopted by most public schools. These strategies are specific to the task at hand and vary with each skill to be learned (See Appendix B).

**Criterion-referenced tests** are "tests of essential terminal behavior as called for by the statements of learning objectives; test items should measure the student's ability to behave in performance as he was taught during the course of instruction" (6, p. 596).
Phonic Word-Attack is the relation of speech sounds to the written symbol and may be referred to in this paper as decoding skills (13).

Teacher Performance Tests are mini-lessons which consist of a specific measurable objective suitable for a short lesson, a sample test item, and background information concerning the objective. The teacher prepares the lesson designed to accomplish the objective at the same time keeping the lesson interesting to the learners. The lesson usually does not exceed twenty minutes. These may be referred to in this paper as competencies. (See Appendix C).

Limitations of the Study

This study was limited to:

1. the instructional effectiveness of student teachers.
2. phonic word-attack skills.
3. short term learning.
4. corrective reading instruction.

Basic Assumptions

For this study, it was necessary to assume that

1. The student-teachers participating in Treatment I (basal instruction) and Treatment II (systematic instruction) were equally proficient and dedicated, since no special qualifications were stipulated for the selection of these teachers.
2. Achievement in phonic word-attack skills can be measured adequately by means of the criterion referenced tests used in this study.

3. Extraneous conditions affecting the results of the instruction being studied were evenly distributed between the groups and therefore would not adversely affect the study.

Instrumentation

Criterion-Referenced Phonic Word-Attack Skills Tests

The criteria for determining the effectiveness of the respective treatments were pre- and post-test scores of the elementary school children on each of the phonic word-attack objectives. These pre- and post-tests were designed by the researcher and Bane (see Appendix D), and content-validated by a team of reading specialists from North Texas State University. Two equivalent forms of the tests were administered to children in grades three and four in three elementary schools with an interval of one day between the alternate forms. To obtain reliability data these tests were administered to the same children on two successive days. A reliability coefficient using Pearson's product-moment correlation was then calculated for each of the tests. All reliability coefficients were significantly high at the .01 level.
Teaching Performance Tests

Teaching performance tests, referred to in Appendix E as competencies, were designed and included a statement of the instructional task, instructional objective, sample test item, and background information.

Procedures for Collecting Data

Sample and Training of Student Teachers

One half of the student teachers from the North Texas State University Teacher Education Center at Fort Worth were randomly assigned to pre-service training in the use of basal reader instructional strategies for approximately twenty hours. The other half of the student teachers were randomly assigned to pre-service training in the use of a systematic instructional strategy for approximately twenty hours.

Selection of Teachable Groups

Approximately 110 elementary children in grades three and four in two elementary schools were administered written criterion-referenced phonic word-attack skills pre-tests. On the basis of the pre-test data, the pupils who scored less than eighty percent were randomly assigned by pre-test data alone to one of fourteen groups of from four to six children at their grade level to receive instruction on that particular word-attack skill.
Conducting the Lessons

The teachable groups were randomly assigned to one of fourteen teachers, seven of whom used the systematic instructional strategy and seven who used a basal-reader-oriented instructional strategy. The lessons did not exceed twenty minutes. The minimum time was not predetermined. Each group was then post-tested with an alternate form of the pre-test. This procedure was followed for each of the six objectives.

Treatment of the Data

The means for each of the groups taught with the systematic strategy were calculated for each objective. The means for each of the groups taught with the basal-reader-oriented strategy were calculated for each objective. The rationale for calculating a mean for each student teacher was to be able to see the differences in teacher scores. These means were compared for each objective through analysis of covariance procedures with the pre-test scores serving as the covariant as stated by Ferguson (4, p. 299). The .05 level of significance was used as the basis for rejecting or accepting the hypotheses.
CHAPTER BIBLIOGRAPHY


CHAPTER II

SURVEY OF RELATED LITERATURE

Competency-Based Movement

In the past few years the movement toward competency-based teacher education has experienced rapid growth, until today there are more than thirty states involved in the study of competency-based teacher education (32). Competency-based education requires educators to accept the responsibility for the consequences of their actions. Airasian (1) says that the concept revolves around a single central theme--accountability.

Nachbar (26, p. 717) writes that "taxpayers will either ask or be urged to ask if they are getting their dollar's worth for the educational dollar." She continues, "we educators must find a way of demonstrating that we know what we are doing; that we know how to go about doing it; and that we can show them what we have done."

The competency-based movement has as one of its goals the training of teachers who are able to demonstrate their ability to be effective with pupils (35, p. 24; 23, p. 21), but until recently little definitive information existed in the form of research that demonstrated how this was to be accomplished (35, p. 52).
Teaching Performance Tests

How to assess the quality of a teacher's performance has plagued educational experts for a long time (28). A series of investigations initiated at the University of California at Los Angeles in 1964 resulted in the development of the teaching performance test (See Appendix E used in this study). This type of test was devised as a vehicle for assessing instructional proficiency (28, 29), and it was assumed that a reliable teacher performance test could measure a teacher's ability to change learner behavior.

According to the originators (31, p. 2), a teaching performance test consists of a mini-lesson designed to measure:

. . . a teacher's effort to accomplish a specific instructional objective with a small group of learners in a brief time period. The teacher is given an explicit, measurable objective suitable for a short lesson. A sample test item is provided to further clarify the nature of the objective. Then the teacher prepares a lesson for a small group of learners designed to accomplish the objective and, at the same time, to be interesting to those learners. Next, the teacher instructs the learners for a short span of time, typically 15 minutes.

At the end of the lesson a posttest, not previously seen by the teacher but whose nature could be readily inferred from the instructional objective and sample test item, is administered to the pupils. On the basis of posttest scores, a judgement of the teacher's instructional skill can be derived.

The authors of this type of lesson see it as the focus upon which a teacher improvement program can begin (31, p. 2).
While teaching performance tests are perhaps not as representative of the real world of teaching as might be hoped, Popham (28, p. 40) maintains that there are enough parallels with reality to make them useful to teacher educators.

In a recently reported series of investigations it was revealed that teachers may not be significantly more proficient than non-teachers in their ability to demonstrate effective changes in learner behavior (29, p. 599). The research described by Popham reported one of the first uses of teacher performance tests.

The three unit areas of study were social science, auto mechanics, and electronics. Each area of study was divided into two classes. A college student or tradesman was randomly assigned to one class and a classroom teacher to the other. The social science study was replicated thirteen times, the auto mechanics study was replicated twenty-eight times, and the electronics study was replicated sixteen times. Approximately two weeks prior to instruction both the teachers and the non-teachers received the objectives for the performance test and the resource materials. Each was directed to plan a unit of instruction that would accomplish as many of the objectives as possible in the allotted time. At the conclusion of the instruction the students were post-tested by the investigators. It was found that the teachers did not significantly outperform the non-teachers.
An answer to the question of why teachers were unable to cause significantly higher achievement gains in their pupils was contributed by Popham who says:

Experienced teachers are not skilled at bringing about changes in learners. We should not be surprised that teachers are not skilled goal achievers. Certainly they have not been trained to be: teacher education institutions rarely foster this competence (29, p. 601).

Goal-Referenced Instructional Model

An insight into the possibility of raising teacher effectiveness may be found in the work of Popham and Baker (29), and the use of a goal-referenced instructional model. The model advocated attends to the matter of what observable behaviors the learner should possess at the conclusion of the instruction. The goals are clearly specified in the form of instructional objectives.

The instructional model features four separate components (30, pp. 11, 12, 13):

(1) The objectives of instruction are specified in terms of learner behavior.

(2) The student is preassessed as to his current status with respect to those instructional objectives.

(3) Instructional activities incorporating research validated principles are designed.

(4) The student's attainment of the objectives is evaluated.

An advantage of the kind of model described is that it aids the teacher in selecting appropriate instructional
activities. Another advantage is that it allows the teacher to observe if the post-instruction behaviors described in the objective were learned. The following twelve pages present the Systematic Model of Instruction with research related to the individual components of the model.

Objectives-Focused

Popham and Baker (30), Mager (22), Bloom (3) and Tyler (39), concerned with the problem of teacher effectiveness, have focused much of their research on consequence objectives. This approach observes the learner in the light of the objective. It implies that through explicitly stated objectives that guide the teacher through instruction to a specified goal, a teacher's effectiveness can be evaluated. The consequence of instruction is the measure of effectiveness (30, p. 12).

"Precise instructional objectives . . . are simply statements of what teachers want to happen to learners as a result of the instruction" (27, p. 52). The central purpose, according to Popham, is to help an instructional planner conceptualize the kind of changes to be promoted in learners. His contention is that planning one's actions on the basis of the actions likely consequences is a rational act. In answer to criticism that this approach is mechanical Popham states, "to be clearheaded is not to be mechanistic" (27, p. 52).
Ralph Tyler devoted much time to the idea of formulating objectives and says, "They are the most critical criteria for guiding all the other activities of the curriculum maker" (39, p. 40). Concurring with this view, Mager points out that when clearly defined goals are lacking, it is impossible to evaluate progress or outcomes efficiently, and there is no sound basis for selecting appropriate learning activities (22, p. 3).

Bloom further explains that after determining what is "knowable," it is important that "... the major objectives of the school or unit of instruction be clearly identified if time and effort are not to be wasted on less important things and if the work of the school is to be guided by some plan" (3, p. 26).

In a recent research study devoted to this idea of objectives-focused instruction, Levine (19) compared the effects of a goal-referenced versus a means-referenced model. He investigated the hypotheses that when two groups of teacher trainees are randomly assigned to two instructional methods courses, one of whom receives training in criterion-referenced (goal-referenced) model and the other of whom receives training in a means-referenced (activity-centered) model, and both groups are required to teach the same lesson to a randomly assigned group of pupils, the group trained to apply the criterion-referenced model will produce significantly greater mean pupil score than will the
means-referenced group. Student teachers in the criterion-referenced group received seven weeks of instruction from the investigator in the use of a criterion-referenced model, in which the focus was on the pupil's attainment of specified behavioral objectives. Student teachers in the means-referenced group received an equivalent amount of instruction where the emphasis was placed on the methods used by the teacher. The investigator found that the student teachers who received training in the criterion-referenced model were significantly more effective in raising pupil achievement than were the student teachers instructed in the means-referenced model. It was concluded that the successful use of the criterion-referenced model appeared to relate significantly to producing effective results with pupils.

Popham maintains that

An outcomes-focused approach emphasizes the results that a teacher's efforts produce in modifying the behaviors of learners and can be contrasted with more process-focused strategies which attend to the instructional ploys a teacher utilizes with pupils . . . . The criterion . . . is not what the teacher does, but what happens to learners as a result of what the teacher does (27, pp. 51-52).

**Pre-Assessment**

The second part of the instructional model requires the teacher to preassess the learners to be sure the competency required in the objective has not already been achieved by the learner. Popham and Baker (30, p. 15) believe that the pre-assessment of learners can establish an accuracy in
advance of instruction that will pinpoint the progress made by a student in relation to a prescribed objective. It will show to what degree the teacher was or was not successful and allow for a differentiation of instruction if necessary.

Gagne (10, p. 72) asserts that difficulties in learning most often can be attributed to disregarded prerequisites. A careful task analysis, or preassessment, can obtain data about what the learner needs to know in order to accomplish a given task.

Piaget (16, pp. 100-110) says that attainment of higher level tasks must be preceded by the mastery of simpler tasks that lead to the more difficult. He illustrates this concept in the following way:

... higher forms of structuralization involve new structures but the content of these new structures will consist of perceptual data and these will be ready-structured (16, p. 6).

Popham and Baker (30, pp. 74-75) summarize this concept of setting the stage for implementation of successful instruction:

1. Analyze the components of terminal objectives in terms of what the learner has to be able to do before he can succeed at the task described by the objective.

2. Pretest to measure the student's pre-instruction acquisition of the terminal, en route, and prerequisite behavior.
Instruction

Popham and Baker's Systematic Model of Instruction is designed with the assumption that it takes more than objectives to improve instruction. The third component of the instructional model then, is the designing of the instructional activities into an instructional sequence. The principles that Popham and Baker advocate are drawn from the instructional psychology of such men as Tyler (39), and Gagne (10), which they express as being of great utility in aiding the teacher. The sequence consists of four parts (30, pp. 77-89):

1. Revealing the objective(s)
2. Perceived purpose
3. Appropriate practice
   a. Analogous
   b. Equivalent
4. Knowledge of results

This third component of the instructional model, with its powerful instructional principles, assures the teacher that if these principles are incorporated into the lesson the likelihood of bringing about more effective student learning will be enhanced (30, p. 77).

Revealing the Objective. According to Popham and Baker, the first step in a systematic approach to instruction is unquestionably the specification of objectives in operational terms and these objectives "should be communicated to learners in language they will understand" (30, p. 78).
There are a number of studies which suggest the importance of allowing the learner to know what is expected of him. A study by Harrison (14) revealed that when the teacher informed the pupils early in the instructional sequence just what they were expected to know at the conclusion of the instruction, significantly more effective results were produced than were produced by the vague objectives approach. A study by Doty (7) presented evidence that prior knowledge of educational objectives before studying an instructional unit does increase the efficiency in student learning.

Duchatel (8) hypothesized that instructional objectives could serve as organizational support in learning. This function, however, was expected to be operative only if the students were aware of the role of the objectives in the learning situation. Knowledge of the objectives in this study enhanced learning in a "random" structured condition only, but the results did support the orienting function of objectives, as well as the interaction between this function and prior knowledge of the objectives.

Mager (2, p. 4) says "with clear objectives in view, the student knows which activities are relevant to his success, and it is no longer necessary for him to 'psych out' the instructor." Popham and Baker maintain that if both teacher and students are aware of the goals of
instruction, the teacher will be more inclined to avoid irrelevancies (30, p. 80).

**Perceived Purpose.** Popham and Baker (30, pp. 80-81) say that the learner should be shown the value of what he is undertaking. If the learner can see why accomplishing the objective is worthwhile it is more likely learning will occur. "This principle falls in the general field of motivation" (30, p. 81).

The concept of motivation continues to be a central problem in psychology, according to Jones, and it continues to be a problem with many facets (18, iii). Included among these are the problems of how behavior is started, energized, sustained, directed, and obstructed and what kind of subjective reaction is present in the organism while all this is happening.

Logan (20, pp. 153-157) believes that motivation has no direct effect upon learning but that it does affect it indirectly. He says that a person has to want something and also expect to get it in order to be motivated. Logan labels this as drive and incentive motivation respectively.

McClelland, quoted by Wallen and Travers (75, p. 496), recognizes that "the level of motivation depends partly on the cues provided by the environment and partly on the internal capacity to respond to those cues." "Motivation,"
he says, "implies that teachers may be able to supply cues which arouse activity, but also that structures which permit these cues to operate may not exist in all pupils."

Tyler's contention is that the learning experiences the child encounters must be satisfying to him for the learning experience to be effective (39, p. 43), and it is Gagne's view that:

... the learner can be rewarded, and his subsequent learning can be enhanced, by the accomplishment of learning tasks that are within his capabilities. Achievement, successful interaction within the learning environment, and mastery of the objectives themselves lead to persisting satisfaction on the part of the learner and can therefore become a most dependable source of continuing motivation (10, p. 288).

Glaser, Homme, and Evans (12, p. 437) say that teaching machines contribute to motivation. The tasks to be learned are presented in carefully sequenced segments which guide the pupils learning toward a specified goal. Success along the way enhances the likelihood of accomplishing the goal. This theory is suggested by B. F. Skinner (36) who theorized that reinforcement following each response facilitates learning and that it is a form of motivation. Popham and Baker (30, pp. 80-82) assert that it might be more purposeful to provide learners with insight regarding the purpose of the objective as it relates to their lives, their interests, or their immediate needs.

A clear picture of the development of motives is lacking, according to Wallen and Travers (4, p. 496) who
say that no method exists for determining which kinds of cues produce arousal in a particular child. It is acknowledged at this point that having a purpose for accomplishing a given task is of prime consideration as a learning principle because it lets the learner perceive the worth of what he is studying (30, pp. 80-82).

**Appropriate Practice: Analagous and Equivalent.** Of the principles of instruction which compose the instructional model, perhaps the most potent is the one of appropriate practice (30, pp. 82-85). According to this principle Popham and Baker recommend that the teacher must provide opportunities during instruction for the learner to practice the behavior called for in the objective. An analogy of this principle can be found in the example of learning how to swim. Analogous practice would take the form of practicing swimming strokes by the side of the pool. This kind of practice would be considered necessary but if the lesson consisted only of analogous practice the learner would probably not be able to swim at the end of the instruction. Equivalent practice is then provided to give the learner the opportunity of practicing the strokes in the water.

The behavior specified in the objective was to be able to swim in the water and the learner will have a much better chance of being effective if he has practiced behavior of the sort set down in the objective (13).
Practice in applying this principle to the solution of problems "will increase the probability of transfer of training to new problems which require the use of the same principle for their solution" (40, p. 497).

The research of Hartsborne and May (40, p. 500) demonstrated that indirect learning was not as effective as when the pupil had a chance to practice the responses or aspects of the responses to be learned. In reiteration Popham and Baker (30, p. 85) contend that "the use of some kind of appropriate practice during an instructional sequence would seem to be such a powerful instructional method that all teachers are urged to employ it."

Knowledge of Results. According to the principle of Knowledge of Results, "Provisions should be made to enable the learner to determine the adequacy of his responses shortly after he makes them" (30, p. 85). There is evidence in research that supports the idea that positive learning is derived from allowing students to know whether their responses are correct or incorrect.

What are the consequences of "knowledge of results?" Lumsdaine (21, p. 620) reports that the differences in the ways that knowledge of results functions have not been clearly analyzed; however, he does cite a study by Hirsch who concluded that there were fewer effects when students
were simply told they were right or wrong than when the correct answer was also given.

One clear comparison of the effects of different kinds of feedback was reported by Irion and Briggs (17). It was found that giving complete knowledge of results, showing the correct answer after each task attempt, was significantly better than giving a right-wrong indication.

In an experiment by Angell and quoted by Lumsdaine (21, p. 621), students in the experimental group obtained immediate knowledge of quiz results. Delayed knowledge of quiz results was given to the control group. Differences between scores on a final examination were significant in favor of the experimental group.

The important thing, according to Popham and Baker is "for the teacher to give the students some way of finding out whether their responses are on target" (30, p. 86). This, they claim, insures more effective learning.

**Evaluation**

The fourth and final component of the instructional model is that of evaluation. How can the effectiveness of learning experiences be evaluated? Tyler (39, pp. 68-81) suggests that the value of evaluation lies in checking the effectiveness of teachers and other conditions that are being used to perpetuate the instructional program. Through
evaluation it can be seen what aspects of instruction were effective and which need improvement.

The concept of evaluation, according to Tyler (39, p. 69), has two important aspects. Evaluation must (1) appraise the change in learner behavior, and (2) involve appraisals at different points of instruction to see if changes are occurring.

Popham and Baker take the position that evaluation should "depend primarily on the record of achievements that teachers produce in their learners" (30, p. 129).

Taba's definition of evaluation is based on the following assumptions:

Education is a process which seeks to change the behavior of students. These changes are the objectives of education . . . . Evaluation is the process of determining what these changes are. . . . It involves: (1) clarification of objectives; . . . (2) the development and use of a variety of ways for getting evidence on changes in students; (3) appropriate ways of summarizing and interpreting that evidence; and (4) the use of information gained on the progress of students or the lack of it to improve . . . teaching . . . (37, p. 312).

Furthermore, Taba states that to be effective an evaluation program should have the following characteristics and should: (1) be consistent with the objectives; (2) include not only the lower mental functions but the higher mental processes as well; (3) distinguish between levels of performance; (4) measure what it is designed to measure; (5) incorporate multiple measures for a unified judgment; and (6) be a continual process (37, pp. 316-323).
"If a teacher wishes to have an adequate basis for judging the quality of his instruction, he should use tests that accurately and representatively reflect his objectives" (30, p. 130). According to Popham the way a teacher can do this is to get into the business of writing his own tests (28). He will then have the advantage of being "on target." Tests of this sort are called criterion-referenced tests and are designed to measure accurately the stated objectives (See Appendix C). When the tests are scored the teacher is in a position to evaluate the utility of the instructional sequence. He can use the results to make improvements in his teaching or if he has been successful he can use the results for expanding to more complex objectives. In either case he can see first hand his effectiveness as a teacher in bringing about effective changes in learner behavior (30, p. 143).

Popham and Baker maintain that by following carefully the model of instruction and adhering to the prescribed principles of learning a teacher can become a "truly polished professional" (30, p. 160). If this is true and if student teachers are taught how to use systematic instruction productively in terms of student learning, how effective would systematic instruction be for children learning phonic word-attack skills?
Reading Instruction

Reading is perhaps emphasized more than any skill taught to elementary school children. The instruction is divided into two processes:

(1) Word-attack skills; phonic and structural analysis, and (2) Comprehension skills; literal, interpretive, analytic, critical, and creative (24).

Word-attack constitutes recognizing, auditorily and visually, the printed symbol while comprehension involves obtaining meaning from the recognized symbol. Most experts agree that unless both processes are active the reading act is incomplete (33, p. 868).

Justification for teaching phonics is found in practice and research. When Russell (34) questioned teachers on why phonics was a part of their reading program, 98 percent thought phonics to be necessary for learning to read more efficiently.

Support for the practice of teaching phonics can be found in the research of Tiffin and McKinnis (38), who found a positive correlation between the reading ability of children and phonics in Grades 5-8 and concluded that phonic knowledge is of value in reading.

Gates and Russell (11) investigated word analysis programs for beginning readers and concluded that a program containing little or no phonics was not as satisfactory as one which contained moderate amounts of informal phonics.
Chall (4, p. 307), after reviewing the literature from 1912 to 1965 concluded:

... a code-emphasis method—i.e., one that views beginning reading as essentially different from mature reading and emphasizes learning of the printed code for the spoken language—produces better results, at least up to the point where sufficient evidence seems to be available, the end of the third grade.

Chall with a grant from the Carnegie Foundation for the Advancement of Teachers, visited classrooms in widely scattered areas in different types of school situations in the United States and in England to acquire first-hand information of how beginning reading was taught and to gain further understandings of various instructional methods for reading. Her findings were in direct opposition to many of the points of view held in the middle sixties by specialists in the field of reading who thought that the code-approach for beginning reading was undesirable (6, p. 104). Her findings supported those of Rudolph Flesch who in 1955 urged intensive phonic instruction for beginning readers in his book entitled Why Johnny Can't Read (9).

During the 1950's and the early 1960's phonic instruction was criticized. Heilman (15, p. 99) attributes much of the opposition, as based upon two erroneous premises. The first was a misconception voiced by linguist Leonard Bloomfield that the purpose of phonics instruction was to teach the child how to pronounce words by teaching him speech sounds. According to Heilman, the purpose of phonic instruction is
to teach the child to associate printed letter-symbols with known speech sounds. He says that a beginning reader does not apply phonic analysis in order to learn how to pronounce words, his problem is that he does not know what spoken word is represented by a particular pattern of letters. Phonic analysis helps him to that discovery. "Only in this sense is phonics related to pronouncing words" (29, p. 99).

The second misconception Heilman once more attributes to Bloomfield, who states that phonic methods isolate speech sounds (15, p. 99). According to Heilman, this is no longer true. Children are now taught that a particular letter represents the same speech sound in many different words and they are invited to think of or vocalize this sound when the letter occurs in a word they are attempting to solve. "The child who does not learn to solve the relationship between the letter d for example, and the pronunciation of each of the words dig, dog, drum, will never become an independent reader of English" (15, p. 99). Phonics instruction deliberately leads the child to see these relationships (24).

The ability to decode words is a valuable skill, according to many experts. McKee emphasizes its value when he maintains that any adult in the United States who lacks decoding proficiency is seriously handicapped (25, pp. 32-36). According to the Report of a Conference of
Reading Experts (5, p. 3), phonics was considered one of the "essential skills that help children identify printed words that they have not seen before and then understand the meaning that these words represent."

An answer to the question of whether or not to teach phonics is still sought. Nevertheless, phonics plays an important part in the teaching of reading in most elementary schools across the United States through the basal reader program.

In recent years much effort has been invested toward making changes in basal reader series. Areas such as selected vocabulary, teaching aids, illustrations, and materials that appeal to children have been improved (12). Because the basal approach is a comprehensive attempt toward reading instruction the phonics program that is included within this approach has not generally been considered one of its strengths (2).

Under the basal reader method the phonic element is always introduced in the context of the reading lesson (33, p. 877). The pupils read, in context, known words each containing the phonic element. When the new word is introduced they are expected to be able to generalize to its pronunciation.

There has been very little experimental research on the basal reader, according to Glaser and Lumsdaine, but
it has concerned reading experts that although changes in the basal reader have occurred the approach to teaching reading with the basal reader has remained unchanged throughout its existence. The basal reader is not objectives-focused. Instead, its "information is asserted in the form of declarative sentences on the assumption that learning will occur by some means" (12, p. 437). It "does not generate a describable and predictable process of learner behavior," according to Lumsdaleine (21, pp. 585-586).

The current emphasis on competency-based teacher education has led educators to look for a means of equipping pre-service teachers with skills that will enable them to do a better job of teaching. This study, concerned primarily with reading skills, focuses on teachers' competency in reading instruction. Since basal readers have been the traditional mode for reading instruction in the public schools, the question has arisen as to whether this approach to teaching children to read is adequate for teaching proficiency (9).

Popham and Baker's work has suggested that a model for guiding a teacher and pupil systematically through the instructional process may be one way of identifying a successful teacher (30). The key to successful teaching they say is to be able to analyze what one does and then make the appropriate modifications. Systematic instruction can
be useful in making such an analysis and can determine whether or not effective changes in learner behavior have taken place.

The research of Popham (28; 30; 31), Mager (22), Glaser (12; 13), Tyler (39), and Wallen (40), is based upon the central assumption that the only reason for the teacher being present in the classroom is to produce worthwhile changes in learner behavior. Therefore, this study seeks to answer the question of whether, at least in teaching phonic word-attack skills, a systematic model of instruction would be a beneficial tool for pre-service teachers to possess. The research to date, while not exhaustive, gives indication that further investigation into teaching strategies concerning positive changes in learner behavior would be warranted.


CHAPTER III

PROCEDURES FOR OBTAINING AND TREATING DATA

Description of the Subjects

This study compared subjects using two approaches for teaching phonic word-attack skills. Fourteen student teachers were assigned to the North Texas State University Teacher Education Center located in Fort Worth, Texas. Seven of these student teachers were randomly assigned to Treatment I to be instructed in the use of basal-reader-oriented instructional strategies and seven student teachers were randomly assigned to Treatment II to be instructed in the use of a systematic instructional strategy.

Training of the Subjects

This study required two groups of student teachers who had no previous teaching experience to participate in an experimental study over an eight week period during the fall semester of 1974. Popham and Baker's Systematic Model of Instruction was compared with basal-reader-oriented instruction.

The student teachers in Treatment I were trained for twenty hours in the use of the basal reader. They were given a description and rationale, according to McKee (25),
in the use and purpose of the basal reader. They witnessed demonstrations by teachers instructing students in reading from a basal reader. Basal readers were provided from Texas adopted series published by Houghton-Mifflin, Harcourt-Brace, and Economy Publishers. These series of basal readers were to be used as guides in helping the student teachers design and teach a practice phonic word-attack skills lesson to a previously pre-tested group of students. The student teachers were instructed to be concerned with only the phonic word-attack skills portions of the books. An example is in Appendix B. These same books were to be their ultimate guide when teaching the six phonic word-attack skills objectives to be used in the experiment.

The student teachers in Treatment II received twenty hours of training in the use of Popham and Baker's Systematic Model of Instruction. During this time a presentation was given regarding the rationale for using the model. A filmstrip entitled, Systematic Instructional Decision-Making was viewed and discussed. A video-taped example of the successful use of the model was presented and the book, Planning an Instructional Sequence, was assigned for reading. Time was then given for each student teacher to plan and to teach a practice lesson to a small group of students who had been pre-tested previously on an objective unrelated to the study. The student teachers were instructed to design their lesson using the model format.
The two groups of student teachers were requested not to discuss any materials or procedures outside their own group and upon completion of the training sessions directions for teaching the competencies were given to the fourteen subjects (See Appendix F).

Instrumentation

**Criterion-Referenced Phonic Word-Attack Skills Tests**

The criteria for determining the effectiveness of the respective treatments was pre- and post-test scores of the elementary pupils on each of the phonic word-attack objectives. These pre- and post-tests were designed by the researcher and Bane (See Appendix D), and content validated by a team of reading specialists from North Texas State University. Two equivalent forms of the tests were administered to pupils in grades three and four in three elementary schools with an interval of one day between the alternate forms. To obtain reliability data these tests were administered to the same pupils on two successive days. A reliability coefficient using Pearson's product-moment correlation was then calculated for each of the tests. The reliability coefficients for each objective are presented in Table I.
TABLE I
ALTERNATE FORMS RELIABILITY COEFFICIENTS FOR PHONIC WORD-ATTACK SKILLS OBJECTIVES

<table>
<thead>
<tr>
<th>Objective</th>
<th>Reliability Coefficient</th>
<th>Degrees of Freedom</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>0.9364</td>
<td>19</td>
<td>.01</td>
</tr>
<tr>
<td>7.1</td>
<td>0.7401</td>
<td>21</td>
<td>.01</td>
</tr>
<tr>
<td>7.2</td>
<td>0.9391</td>
<td>25</td>
<td>.01</td>
</tr>
<tr>
<td>8</td>
<td>0.8835</td>
<td>21</td>
<td>.01</td>
</tr>
<tr>
<td>9</td>
<td>0.8087</td>
<td>21</td>
<td>.01</td>
</tr>
<tr>
<td>10</td>
<td>0.5742</td>
<td>22</td>
<td>.01</td>
</tr>
</tbody>
</table>

Teaching Performance Tests

Teaching performance tests, referred to in Appendix E as competencies, were designed and they included a statement of the instructional task, instructional objective, sample test item, and background information.

Procedures for Collecting Data

On Monday of each week a pre-test pertaining to the skills objective to be taught that week was given by the researcher to approximately 110 third and fourth grade pupils in two elementary schools. Those pupils who scored eighty percent or less were then randomly distributed throughout fourteen teachable groups. A mean was calculated for each group based on the pre-test.

The procedures for distributing the teaching-performance tests, teaching group assignments, and post-tests were the
same for all fourteen student teachers. Each student teacher was given a folder labeled with his or her name. On Tuesday these folders were supplied with the week's competency in the form of a teaching-performance test, names of the elementary pupils randomly assigned to each student teacher (See Appendix G), and post-tests, which were alternate forms of the pre-tests, for the number of pupils to be instructed. The student teacher received the folder on Tuesday afternoon, in preparation for teaching on Wednesday, to approximate the amount of time given to a classroom teacher for preparation of the same type of twenty minute lesson.

In addition to the teaching performance test, the student teachers in Treatment I utilized sets of commercial materials. These materials are listed in Table II.

TABLE II

<table>
<thead>
<tr>
<th>Publication</th>
<th>Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Widening Circles</td>
<td>Harcourt-Brace Publishing Company</td>
</tr>
<tr>
<td>Secrets</td>
<td>Houghton-Mifflin Publishing Company</td>
</tr>
<tr>
<td>Rewards</td>
<td>Houghton-Mifflin Publishing Company</td>
</tr>
<tr>
<td>Panorama</td>
<td>Houghton-Mifflin Publishing Company</td>
</tr>
<tr>
<td>Kaleidoscope</td>
<td>Houghton-Mifflin Publishing Company</td>
</tr>
<tr>
<td>Images</td>
<td>Houghton-Mifflin Publishing Company</td>
</tr>
<tr>
<td>Curbstone Dragon</td>
<td>Economy Publishing Company</td>
</tr>
<tr>
<td>Mustard Seed Magic</td>
<td>Economy Publishing Company</td>
</tr>
<tr>
<td>Air Pudding and Wind Sauce</td>
<td>Economy Publishing Company</td>
</tr>
<tr>
<td>Mysterious Wisteria</td>
<td>Economy Publishing Company</td>
</tr>
</tbody>
</table>
Duplicating masters were available from the publishers of these books and were used when applicable by some of the student teachers in Treatment I.

The student teachers in Treatment II used the same teaching performance test but designed instructional activities of their own using Popham and Baker's Systematic Model of Instruction as their guide. Each Wednesday the fourteen student teachers taught the same skills objective to their assigned teaching group. The data from the individual post-test scores were recorded next to the pre-test data and a second group mean was calculated.

Statistical Treatment of the Data

Group size was determined by the number of pupils requiring the skills objective and varied with each competency, as did the boy-girl ratio. All hypotheses were tested by one-way analysis of covariance with the pre-test scores serving as covariates.

A mean was calculated for each student teacher on the basis of pupil scores. Fourteen means were calculated for each of the six phonic word-attack skills objectives, seven for Treatment I and seven for Treatment II, except for skills objectives one and three in which seven means were calculated for Treatment I and six for Treatment II due to experimental mortality. An F-ratio was obtained to indicate any significant difference between the means of the Treatment I group
and Treatment II groups for each of the six skills objectives.

An overall comparison was made which combined each student teacher's means into a grand mean and compared the results of one strategy with the other. These fourteen grand means were ultimately compared through analysis of covariance and yielded an F-ratio which was used for determining statistically the significance of one approach versus the other approach at the .05 level. Tables in Ferguson's statistics book were consulted (4).

Summary

In this chapter, the third and fourth grade students and the student teachers who participated in this study have been described and a description of the experimental method and materials has been reported. An explanation related to the training sessions conducted for the student teachers was discussed, and instruments used in gathering the data, and the procedures for collecting and analyzing the data were presented.

In the following chapter the data related to each of the seven hypotheses will be presented with tables included for examination.
CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

This chapter presents an analysis of the data comparing the effectiveness of a basal-reader-oriented instructional strategy (Treatment I), to a systematic instructional strategy (Treatment II) on elementary pupils learning of phonic word-attack skills. For each phonic word-attack skills objective, fourteen groups of from four to six third and fourth grade elementary pupils were formed on the basis of pre-test scores. Seven of these groups were taught by student teachers using basal-reader-oriented instructional strategies (Treatment I) and seven groups were taught by seven different student teachers using a systematic instructional strategy (Treatment II). Post-test means for each of the fourteen groups were calculated and adjusted for initial differences on the basis of pre-test scores through analysis of covariance. This statistical treatment is used to test significance of difference for mean gain. The appropriate table in Ferguson's Statistical Analysis in Psychology and Education, (4, p. 452), was consulted for the F-value required to accept the hypothesis at the .05 level of significance. A grand mean for each of the seven Treatment I means was then
compared for differences with the grand mean for each of the Treatment II means. The .05 level was used to test all hypotheses.

It was hypothesized that student teachers using a systematic instructional strategy (Treatment II) would produce significantly greater achievement of phonic word-attack skills in elementary pupils than student teachers using a basal-reader-oriented instructional strategy (Treatment I) on each of six phonic word-attack skills objectives. Results of the study are presented in the order in which the skills were taught.

Data Related to the Seven Hypotheses

Presentation of Hypothesis I

There will be a significant difference in favor of the Treatment II group of student teachers on skills objective 7. This objective states that the elementary pupil will be able to differentiate between long and short vowels when they are presented in dictated words.

The mean scores for the two treatment groups are shown in Table III. Six means instead of seven were calculated for Treatment II due to experimental mortality.
TABLE III

SUMMARY OF THE DATA RELATED TO THE MEAN SCORES OF PHONIC WORD-ATTACK SKILLS OBJECTIVE 7

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Pre-Test Mean Score</th>
<th>Post-Test Mean Score</th>
<th>Pre-Test S.D.</th>
<th>Post-Test S.D.</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment I</td>
<td>7</td>
<td>31.40</td>
<td>36.79</td>
<td>4.82</td>
<td>16.02</td>
<td>36.82</td>
</tr>
<tr>
<td>Treatment II</td>
<td>6</td>
<td>32.00</td>
<td>53.66</td>
<td>8.32</td>
<td>13.72</td>
<td>53.62</td>
</tr>
</tbody>
</table>

The adjusted mean for data yielded from analysis of covariance is presented in Table IV.

TABLE IV

SUMMARY OF ANALYSIS OF COVARIANCE FOR THE PHONIC WORD-ATTACK SKILLS OBJECTIVE 7

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>11</td>
<td>3383.66</td>
<td>. . .</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Within</td>
<td>10</td>
<td>2474.03</td>
<td>247.40</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Difference</td>
<td>1</td>
<td>909.63</td>
<td>909.63</td>
<td>3.68</td>
<td>0.0842</td>
</tr>
</tbody>
</table>

The F-value of 3.68 was significant at the .08 level favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of this research hypothesis.
Presentation of Hypothesis II

There will be a significant difference in favor of the Treatment II group of student teachers on skills objective 7.1. This objective states that the elementary pupil will be able to identify the vowel heard in a dictated word and record whether its sound is long, short, or "r" controlled.

The mean scores for the two treatment groups are shown in Table V.

TABLE V

SUMMARY OF THE DATA RELATED TO THE MEAN SCORES OF PHONIC WORD-ATTACK SKILLS OBJECTIVE 7.1

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Pre-Test Mean Score</th>
<th>Post-Test Mean Score</th>
<th>Pre-Test S.D.</th>
<th>Post-Test S.D.</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment I 7</td>
<td>45.30</td>
<td>54.90</td>
<td>7.11</td>
<td>16.40</td>
<td>54.35</td>
<td></td>
</tr>
<tr>
<td>Treatment II 7</td>
<td>43.99</td>
<td>61.11</td>
<td>9.87</td>
<td>15.28</td>
<td>61.66</td>
<td></td>
</tr>
</tbody>
</table>

The adjusted mean for data yielded from analysis of covariance is presented in Table VI.
TABLE VI

SUMMARY OF ANALYSIS OF COVARIANCE FOR THE PHONIC WORD-ATTACK SKILLS OBJECTIVE 7.1

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>12</td>
<td>2581.93</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Within</td>
<td>11</td>
<td>2396.08</td>
<td>217.83</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Difference</td>
<td>1</td>
<td>185.85</td>
<td>185.85</td>
<td>0.85</td>
<td>0.3755</td>
</tr>
</tbody>
</table>

The F-value of 0.85 was significant at the .37 level favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of this research hypothesis.

Presentation of Hypothesis III

There will be a significant difference in favor of the Treatment II group of student teachers on skills objective 7.2. This objective states that the elementary pupil will be able to identify the letters representing the vowel diphthongs ("oi," "oy," "ou," "ow") or digraphs ("au," "aw," "ew," "eu") he hears when these sounds are dictated.

The mean scores for the two treatment groups are shown in Table VII. Six means instead of seven were calculated for Treatment II due to experimental mortality.
TABLE VII

SUMMARY OF THE DATA RELATED TO THE MEAN SCORES
OF PHONIC WORD-ATTACK SKILLS OBJECTIVE 7.2

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Pre-Test Mean Score</th>
<th>Post-Test Mean Score</th>
<th>Pre-Test S.D.</th>
<th>Post-Test S.D.</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment I</td>
<td>7</td>
<td>50.99</td>
<td>60.84</td>
<td>8.71</td>
<td>7.69</td>
<td>61.13</td>
</tr>
<tr>
<td>Treatment II</td>
<td>6</td>
<td>52.18</td>
<td>71.00</td>
<td>6.37</td>
<td>12.60</td>
<td>70.66</td>
</tr>
</tbody>
</table>

The adjusted mean for data yielded from analysis of covariance is presented in Table VIII.

TABLE VIII

SUMMARY OF ANALYSIS OF COVARIANCE FOR THE PHONIC WORD-ATTACK SKILLS OBJECTIVE 7.2

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>11</td>
<td>1258.81</td>
<td>. . .</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Within</td>
<td>10</td>
<td>967.48</td>
<td>96.75</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Difference</td>
<td>1</td>
<td>291.33</td>
<td>291.33</td>
<td>3.01</td>
<td>0.1133</td>
</tr>
</tbody>
</table>

The F-value of 3.01 was significant at the .11 level favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of this research hypothesis.
Presentation of Hypothesis IV

There will be a significant difference in favor of the Treatment II group of student teachers on skill objective 8. This objective states that the elementary pupil will be able to indicate the vowels he hears in dictated words of one or more syllables. The mean scores of the two treatment groups are shown in Table IX.

TABLE IX

SUMMARY OF THE DATA RELATED TO THE MEAN SCORES OF PHONIC WORD-ATTACK SKILLS OBJECTIVE 8

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Pre-Test Mean Score</th>
<th>Post-Test Mean Score</th>
<th>Pre-Test S.D.</th>
<th>Post-Test S.D.</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment I</td>
<td>7</td>
<td>49.05</td>
<td>77.62</td>
<td>17.24</td>
<td>9.11</td>
<td>77.63</td>
</tr>
<tr>
<td>Treatment II</td>
<td>7</td>
<td>49.40</td>
<td>82.61</td>
<td>12.93</td>
<td>12.93</td>
<td>82.60</td>
</tr>
</tbody>
</table>

The adjusted mean for the data yielded from analysis of covariance is presented in Table X.

TABLE X

SUMMARY OF ANALYSIS OF COVARIANCE FOR THE PHONIC WORD-ATTACK SKILLS OBJECTIVE 8

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>12</td>
<td>1542.82</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within</td>
<td>11</td>
<td>1456.29</td>
<td>132.39</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>1</td>
<td>86.53</td>
<td>86.53</td>
<td>0.65</td>
<td>0.4360</td>
</tr>
</tbody>
</table>
The F-value of 0.65 was significant at the .43 level favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of this research hypothesis.

Presentation of Hypothesis V

There will be a significant difference in favor of the Treatment II group of student teachers on skills objective 9. This objective states that the elementary pupil will be able to apply two vowel principles by indicating if the vowel is long or short in monosyllable nonsense words. The vowel principles are (1) A single vowel at the beginning or middle of a word usually has the short sound, and (2) When there is only one vowel in a word, it is usually long if it comes at the end of the word.

The mean scores of the two treatment groups are shown in Table XI below.

<table>
<thead>
<tr>
<th>TABLE XI</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMARY OF THE DATA RELATED TO THE MEAN SCORES OF PHONIC WORD-ATTACK SKILLS OBJECTIVE 9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Pre-Test Mean Score</th>
<th>Post-Test Mean Score</th>
<th>Pre-Test S.D.</th>
<th>Post-Test S.D.</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment I</td>
<td>7</td>
<td>53.70</td>
<td>69.25</td>
<td>2.18</td>
<td>16.54</td>
<td>68.82</td>
</tr>
<tr>
<td>Treatment II</td>
<td>7</td>
<td>52.82</td>
<td>91.79</td>
<td>5.62</td>
<td>7.76</td>
<td>92.23</td>
</tr>
</tbody>
</table>
The adjusted mean for the data yielded from analysis of covariance is presented in Table XII.

**TABLE XII**

**SUMMARY OF ANALYSIS OF COVARIANCE FOR THE PHONIC WORD-ATTACK SKILLS OBJECTIVE 9**

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>12</td>
<td>3686.51</td>
<td>. . .</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Within</td>
<td>11</td>
<td>1792.12</td>
<td>162.92</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Difference</td>
<td>1</td>
<td>1894.36</td>
<td>1894.36</td>
<td>11.63</td>
<td>0.0058</td>
</tr>
</tbody>
</table>

The F-value of 11.63 was significant at the .005 level; therefore, research hypothesis five was accepted.

**Presentation of Hypothesis VI**

There will be a significant difference in favor of the Treatment II group of student teachers on skills objective 10. This objective states that the elementary pupil will be able to apply the "final-e" vowel principle by indicating if the first vowel is short in monosyllable nonsense words. The vowel principle states: When there are two vowels in a word that ends in "e", the first vowel usually has the long sound and the final "e" is not sounded.

The mean scores of the two treatment groups are shown in Table XIII on the following page.
TABLE XIII

SUMMARY OF THE DATA RELATED TO THE MEAN SCORES OF PHONIC WORD-ATTACK SKILLS OBJECTIVE 10

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Pre-Test Mean Score</th>
<th>Post-Test Mean Score</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment I</td>
<td>7</td>
<td>50.45</td>
<td>90.27</td>
<td>5.32</td>
<td>10.69</td>
<td>90.76</td>
</tr>
<tr>
<td>Treatment II</td>
<td>7</td>
<td>51.71</td>
<td>99.86</td>
<td>4.49</td>
<td>0.38</td>
<td>99.36</td>
</tr>
</tbody>
</table>

The adjusted mean for the data yielded from analysis of covariance is presented in Table XIV.

TABLE XIV

SUMMARY OF ANALYSIS OF COVARIANCE FOR THE PHONIC WORD-ATTACK SKILLS OBJECTIVE 10

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>12</td>
<td>760.90</td>
<td>. . .</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Within</td>
<td>11</td>
<td>506.98</td>
<td>46.08</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Difference</td>
<td>1</td>
<td>253.92</td>
<td>253.92</td>
<td>5.51</td>
<td>0.0387</td>
</tr>
</tbody>
</table>

The $F$-value of 5.51 was significant at the .03 level; therefore, research hypothesis six was accepted.

Presentation of Hypothesis VII

There will be a significant difference in favor of the Treatment II group of student teachers using systematic
instruction on total performance for the combined six phonic word-attack skills objectives.

The grand means of the two treatment groups are shown in Table XV below.

### TABLE XV

**SUMMARY OF THE DATA RELATED TO THE GRAND MEAN SCORES FOR THE COMBINED SIX PHONIC WORD-ATTACK SKILLS OBJECTIVES**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Grand Mean Pre-Test Score</th>
<th>Grand Mean Post-Test Score</th>
<th>Pre-Test S.D.</th>
<th>Post-Test S.D.</th>
<th>Adjusted Grand Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment I</td>
<td>7</td>
<td>46.81</td>
<td>63.99</td>
<td>4.80</td>
<td>9.50</td>
<td>64.20</td>
</tr>
<tr>
<td>Treatment II</td>
<td>7</td>
<td>47.38</td>
<td>77.99</td>
<td>6.18</td>
<td>7.71</td>
<td>77.77</td>
</tr>
</tbody>
</table>

The adjusted grand mean for the data yielded from analysis of covariance is presented in Table XVI.

### TABLE XVI

**SUMMARY OF ANALYSIS OF COVARIANCE FOR THE COMBINED SIX PHONIC WORD-ATTACK SKILLS OBJECTIVES**

<table>
<thead>
<tr>
<th>Source</th>
<th>Degrees of Freedom</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F Value</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>12</td>
<td>1331.78</td>
<td>. . .</td>
<td>. .</td>
<td>. .</td>
</tr>
<tr>
<td>Within</td>
<td>11</td>
<td>688.71</td>
<td>62.61</td>
<td>. .</td>
<td>. .</td>
</tr>
<tr>
<td>Difference</td>
<td>1</td>
<td>643.08</td>
<td>643.08</td>
<td>10.27</td>
<td>0.0084</td>
</tr>
</tbody>
</table>
The F-value of 10.27 was significant at the .008 level; therefore, research hypothesis seven was accepted.

Summary of the Findings

In this chapter, statistical data has been presented comparing the effects of a basal-reader-oriented instructional strategy (Treatment I) with a systematic instructional strategy (Treatment II) for teaching phonic word-attack skills. An analysis of covariance was made on the effects of the two strategies. Three of the seven hypotheses tested were accepted at the .05 level of confidence.

The first six hypotheses compared the effects of one strategy with the other for each of the six phonic word-attack skills objectives. The results of the tests of the hypotheses can be summarized in the following manner:

H_1: The Treatment II group did not have a significantly greater mean score than the Treatment I group when the two treatments were compared. Therefore, Hypothesis I for this study was not accepted.

H_2: The Treatment II group did not have a significantly greater mean score than the Treatment I group when the two treatments were compared. Therefore, Hypothesis II for this study was not accepted.

H_3: The Treatment II group did not have a significantly greater mean score than the Treatment I group when the two
treatments were compared. Therefore, Hypothesis III for this study was not accepted.

$H_4$: The Treatment II group did not have a significantly greater mean score than the Treatment I group when the two treatments were compared. Therefore, Hypothesis IV for this study was not accepted.

$H_5$: The Treatment II group had a significantly greater mean score than the Treatment I group when the two treatments were compared. Therefore, Hypothesis V for this study was accepted.

$H_6$: The Treatment II group had a significantly greater mean score than the Treatment I group when the two treatments were compared. Therefore, Hypothesis VI was accepted.

The seventh hypothesis tested the effects of the systematic instructional strategy on total performance for the combined six phonic word-attack skills objectives. The results of this test of the hypothesis can be summarized in the following way:

$H_7$: The Treatment II group had a significantly greater grand mean score than the Treatment I group when total performance for the two treatments was compared. Therefore, Hypothesis VII was accepted.

Discussion of the Findings

In comparing Popham and Baker's Systematic Model of Instruction with basal-reader-oriented instruction for
teaching phonic word-attack skills, there were no significant differences found at the .05 level for the first four objectives taught. For the fifth and sixth objectives, however, significant differences occurred in favor of the group of student teachers using systematic instruction (Treatment II). This could possibly be accounted for in the following ways. An analysis of the content indicates that the two objectives in which there were significant differences required a higher level of mental functions on the part of the learner. This suggests the possibility that the effectiveness of systematic instructional strategies may be related to the complexity of the learning task to the extent that their effectiveness increases as the learning task increases. It also suggests that as the student teachers gained confidence and experience in teaching they gained proficiency. Improvements were noted in both treatment groups although effectiveness was increased more often in favor of Treatment II, systematic instruction.

Another possibility for the effectiveness of the systematic instructional model used by the Treatment II group may have been due to the learning principles inherent within the model. Principles, such as permitting a child to know what is expected of him before he begins a task may very well help to ease the tension created from facing an unknown learning task. Establishing beforehand just which
prerequisite skills the student needs to have mastered before he can accomplish a given task may be a strong factor contributing to learning. Helping a student see reasons for accomplishing a given task may constitute a form of intrinsic motivation and suggests a profound effect upon learning. Allowing for appropriate practice gives the student an opportunity for practicing behavior he will ultimately be asked to perform. The evaluation will not be foreign to what the pupil has come to know and achievement could be substantial. Allowing the student to know periodically just how he is doing, encouraging his efforts, and helping him correct his mistakes may also contribute to improved learner achievement.

Many teachers use these learning principles successfully as a natural part of their instruction. It was found from listening to the tapes submitted by each student teacher that a few of those in Treatment I who used basal-reader-oriented instruction had blended these principles naturally into their instruction. This may have accounted for some of the gains for Treatment I.
Summary of the Research

Purpose of the Study

The purpose of this study was to compare the effectiveness of a systematic instructional strategy and basal-reader-oriented strategies for teaching phonic word-attack skills to pupils in elementary school grades three and four. The study focused on the following specific questions:

(a) When student teachers use a basal-reader-oriented strategy (Treatment I) for teaching phonic word-attack skills, what will be the effects on elementary pupil achievement of these skills?

(b) When student teachers use a systematic instructional strategy (Treatment II) for teaching phonic word-attack skills, what will be the effects on elementary pupil achievement of these skills?

(c) How will the effects of these strategies compare?

Hypotheses

To carry out the purposes of this study one hypothesis was tested for each of six phonic word-attack skills
objectives. The hypothesis for each objective was as follows: Student teachers using a systematic instructional strategy (Treatment II) will produce significantly greater achievement of phonic word-attack skills in elementary pupils than student teachers using a basal-reader-oriented instructional strategy (Treatment I) on each of the following six phonic word-attack skills objectives.

\( H_1 \): The elementary pupil will be able to differentiate between long and short vowels when they are presented in dictated words (Objective 7).

\( H_2 \): The elementary pupil will be able to identify the vowel heard in a dictated word and record whether its sound is long, short, or "r" controlled (Objective 7.1).

\( H_3 \): The elementary pupil will be able to identify the letters representing the vowel diphthongs ("oi," "oy," "ou," "ow") or digraphs ("au," "aw," "ew," "eu") he hears when these sounds are dictated (Objective 7.2).

\( H_4 \): The elementary pupil will be able to indicate the vowels he hears in dictated words of one or more syllables (Objective 8).

\( H_5 \): The elementary pupil will be able to apply two vowel principles by indicating if the vowel is long or short in monosyllable nonsense words. The vowel principles are: (1) A single vowel at the beginning or middle of a word usually has the short sound and (2) when there is only one
vowel in a word, it is usually long if it comes at the end of the word (Objective 9).

H₆: The elementary pupil will be able to apply the "final-e" vowel principle by indicating if the first vowel is long or short in monosyllable nonsense words. The vowel principle states: When there are two vowels in a word that ends in "e" the first vowel usually has the long sound and the final "e" is not sounded (Objective 10).

H₇: There will be a significant difference in favor of student teachers using the systematic instructional strategy (Treatment II) on total performance for the combined six phonic word-attack skills objectives.

Design of the Research

Description of the Subjects. This study compared subjects using two approaches for teaching phonic word-attack skills. Fourteen student teachers were assigned to the North Texas State University Teacher Education Center located in Fort Worth, Texas. Seven of these student teachers were randomly assigned to Treatment I to be instructed in the use of basal-reader-oriented instructional strategies and seven student teachers were randomly assigned to Treatment II to be instructed in the use of a systematic instructional strategy.
Training of the Subjects. This study required two groups of student teachers who had no previous teaching experience to participate in an experimental study over an eight week period during the fall semester of 1974. Popham and Baker's Systematic Model of Instruction was compared with basal-reader-oriented instruction.

The student teachers in Treatment I were trained for twenty hours in the use of the basal reader. They were given a description and rationale, according to McKee (25), in the use and purpose of the basal reader. They witnessed demonstrations by teachers instructing students in reading from a basal reader. Basal readers were provided from Texas-adopted series published by Houghton-Mifflin, Harcourt-Brace, and Economy Publishers. These series of basal readers were to be used as guides in helping the student teachers design and teach a practice phonic word-attack skills lesson to a previously pre-tested group of students. The student teachers were instructed to be concerned with only the phonic word-attack skills portions of the books. An example is in Appendix B. It was discussed that these same books were to be their ultimate guide when teaching the six phonic word-attack skills objectives to be used in the experiment.

The student teachers in Treatment II received twenty hours of training in the use of Popham and Baker's Systematic
Model of Instruction. During this time a presentation was
given regarding the rationale for using the model. A film-
strip entitled, Systematic Instructional Decision-Making
was viewed and discussed. A video-taped example of the
successful use of the model was presented and the book,
Planning an Instructional Sequence, was assigned for reading.
Time was then given for each student teacher to plan and to
teach a practice lesson to a small group of students who
had been pre-tested previously on an objective unrelated to
the study. The student teachers were instructed to design
their lesson using the model format.

The two groups of student teachers were requested not
to discuss any materials or procedures outside their own
group and upon completion of the training sessions directions
for teaching the competencies were given to the fourteen
subjects (See Appendix F).

Instrumentation. Criterion-referenced phonic word-
attack skills tests were used for determining the ef-
ficacy of the respective treatments. Pre- and post-
test scores of the elementary pupils were calculated for
each of the phonic word-attack objectives. These pre- and
post-tests were designed by the researcher and Bane (See
Appendix D), and content validated by a team of reading
specialists from North Texas State University. Two equiva-
lent forms of the tests were administered to children in
in grades three and four in three elementary schools with an interval of one day between the alternate forms. To obtain reliability data these tests were administered to the same pupils on two successive days. A reliability coefficient using Pearson's product-moment correlation was then calculated for each of the tests. All reliability coefficients were significantly high at the .01 level.

Teaching performance tests, referred to in Appendix E as competencies, were designed and they included a statement of the instructional task, instructional objective, sample test item, and background information.

**Procedures for Collecting the Data.** On Monday of each week a pre-test pertaining to the skills objective to be taught that week was given by the researcher to approximately 110 third and fourth grade pupils in two elementary schools. Those pupils who scored eighty percent or less were then randomly distributed throughout fourteen teachable groups. A mean was calculated for each group, based on the pre-test.

The procedures for distributing the teaching-performance tests, teaching group assignments, and post-tests were the same for all fourteen student teachers. Each student teacher was given a folder labeled with his or her name. On Tuesday these folders were supplied with the week's competency in the form of a teaching-performance test, names of the
elementary pupils randomly assigned to each student teacher (See Appendix G), and post-tests which were alternate forms of the pre-tests, for the number of pupils to be instructed. The student teacher received the folder on Tuesday afternoon in preparation for teaching on Wednesday to approximate the amount of time given to a classroom teacher for preparation of the same type of twenty minute lesson.

In addition to the teaching performance test the student teachers in Treatment I utilized sets of commercial materials from Texas adopted basal reader series. Duplicating masters were available from the publishers of these books and were used when applicable by some of the student teachers in Treatment I.

The student teachers in Treatment II used the same teaching performance test but designed instructional activities of their own using Popham and Baker's *Systematic Model of Instruction* as their guide. Each Wednesday the fourteen student teachers taught the same skills objective to their assigned teaching group. The data from the individual post-test scores were recorded next to the pre-test data and a second group mean was calculated.

**Statistical Treatment of the Data.** Group size was determined by the number of pupils requiring the skills objective and varied with each competency, as did the boy-girl ration. All hypotheses were tested by one-way analysis
of covariance with the pre-test scores serving as co-

A mean was calculated for each student teacher on the
basis of pupil scores. Fourteen means were calculated for
each of the six phonic word-attack skills objectives, seven
for Treatment I and seven for Treatment II, except for
skills objectives one and three in which seven means were
calculated for Treatment I and six for Treatment II due to
experimental mortality. An $F$-value was obtained to indi-
cate any significant difference between the means of the
Treatment I group and Treatment II groups for each of the
six skills objectives.

An overall comparison was made which combined each
student teacher's means into a grand mean and compared the
results of one strategy with the other. These fourteen
grand means were ultimately compared through analysis of
covariance and yielded an $F$-value which was used for
determining statistically the significance of one approach
versus the other approach at the .05 level. Tables in
Ferguson's statistics book were consulted (6).

**Presentation and Analysis of Data**

**Hypothesis I.** There will be a significant difference
in favor of the Treatment II group of student teachers using
the systematic instructional strategy on skills objective 7.
The $F$-value of 3.68 was significant at the .08 level
favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of the research hypothesis.

**Hypothesis II.** There will be a significant difference in favor of the Treatment II group of student teachers using the systematic instructional strategy on skills objective 7.1. The $F$-value of 0.85 was significant at the .37 level favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of the research hypothesis.

**Hypothesis III.** There will be a significant difference in favor of the Treatment II group of student teachers using the systematic instructional strategy on skills objective 7.2. The $F$-value of 3.01 was significant at the .11 level favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of the research hypothesis.

**Hypothesis IV.** There will be a significant difference in favor of the Treatment II group of student teachers using the systematic instructional strategy on skills objective 8. The $F$-value of 0.65 was significant at the .43 level favoring Treatment II; however, the previously established level of .05 would not allow for the acceptance of the research hypothesis.

**Hypothesis V.** There will be a significant difference in favor of the Treatment II group of student teachers using
the systematic instructional strategy on skills objective 9. The F-value of 11.63 was significant at the .005 level; therefore, research hypothesis five was accepted.

**Hypothesis VI.** There will be a significant difference in favor of the Treatment II group of student teachers using the systematic instructional strategy on skills objective 10. The F-value of 5.51 was significant at the .03 level; therefore, research hypothesis six was accepted.

**Hypothesis VII.** There will be a significant difference in favor of the Treatment II group of student teachers using the systematic instructional strategy on total performance for the combined six phonic word-attack skills objectives. The F-value of 10.27 was accepted.

**Conclusions**

Based on the data presented in this study and within the limitations of this study, the following conclusions have been formulated:

1. When elementary student achievement of phonic word-attack skills is used as the criterion for student teacher effectiveness, then training in the conscientious application of systematic instructional procedures incorporating research validated learning principles is a more effective procedure than requiring student teachers to follow the recommended procedures in basal readers.
2. The ability of student teachers to effect learning of phonic word-attack skills by elementary pupils increases with practice; however, this finding seems to indicate that this ability increases at a greater rate for those taught in systematic instructional procedures than for those who are taught the traditional basal reader approach.

3. Where it exists, the apprehension of student teachers to deviate from the recommended procedures of basal readers for fear that elementary pupil learning will not occur was not supported by this study.

4. It may be beneficial for student teachers to have, as a basis for instruction, a teaching strategy that not only takes into account the skill to be learned but also focuses on the learner and how he learns. Popham and Baker's Systematic Model of Instruction may be a necessary tool for instruction for student teachers to possess among their assemblage of skills.

Recommendations for Further Study

The following recommendations are derived from analysis of the data collected in this study and the findings of related research:

1. It might be well to find out whether the attitudes of the student teachers toward reading and their method of
instruction have any bearing on or is in any way related to their performance.

2. An attempt should be made in future studies of this kind to compare the effects of each of the instructional strategies on separate populations of elementary pupils rather than regroup with the same population for more reliable data.

3. Future studies comparing systematic instructional procedures with other treatments might well take into account the complexity of the learning task since there is a hint of that relationship in this study.

4. The Systematic Model of Instruction should be compared with other basal-reading-oriented strategies for teaching readiness skills, structural analysis skills, and comprehension skills.
JAMES POPHAM'S INSTRUCTIONAL MODEL

If learning has not occurred

Specified Objective → Pre-Assessment → Instruction (Differentiated) → Evaluation

- Reveal Objective
- Perceived Purpose

Appropriate Practice

- Analogous
- Equivalent

Knowledge of Results
APPENDIX B
AN ANALYSIS OF GENERAL VERSUS SPECIFIC INSTRUCTIONAL STRATEGIES FOR
TEACHING READING AND THE EFFECTS OF MODELING
BEHAVIOR ON APPLICATION OF
SPECIFIC STRATEGIES

Faculty Research Project
North Texas State University
Denton, Texas
Dr. Robert K. Bane
Dr. Richard D. Gallian

COMPETENCY NO. 4

Title: Substituting Initial Consonant Blends
Grade Level: 2nd, 3rd

This project is funded in whole under a grant from the Faculty Research Office, NORTH TEXAS STATE UNIVERSITY, Denton, Texas, 1973-76, Grant No. 35674.
Competency 4

SUBSTITUTING INITIAL CONSONANT BLENDS

Category: Word Recognition
Sub Category: Phonic Analysis
Grade Level: 1st, 2nd, 3rd

TEACHING TASK AND RATIONALE: A consonant blend is two or three consonants that represent a blended sound. Each letter is heard, but they are not separated by a vowel sound (e.g., "br" in break). Students must learn to look at blends as wholes as an aid to word recognition rather than separating them when dividing words into syllables.

A consonant blend may come at the beginning of a word (e.g., "tr" in train), at the end of a word (e.g., "ng" in thing), or in the middle of a word (e.g., "st" in understand). The sequence of instruction usually followed is to teach two letter blends prior to three letter blends and to teach the initial position first, then the final position, and then the medial position.

During beginning reading instruction one blend will usually be taught at a time to avoid confusion. As the program progresses it is possible to teach two or more related skills such as a group of "r" or "l" blends. While most basal reading series teach the "l" blends, while most basal reading series teach the "r" blends ("br", "cl", "gl", "pl", and "sl") during the first grade, many children continue to have difficulty in associating the consonant blend symbols with the corresponding sound throughout the elementary grades. Once a student can associate the sound of a blend with the appropriate symbol the next logical step is the development of the ability to substitute the blends in words so as to form new words. For example, the student may have previously learned the word "came" in print but not the word "flame" when he encounters the word "flame" for the first time in print, if he is able to substitute the consonant blend sound "fl" in front of the word part "-ame," thereby recognizing the word, then the student is a significant step closer to becoming an independent reader.

Your task is to design instructional activities that will enable the student to meet the following:

Instructional Objective

The student will be able to make new words by substituting initial consonant blend symbols "bl", "sl", "cl", "pl", "gl", and "fl" in known words.

EVALUATION At the conclusion of the lesson the students will be evaluated with a pencil and paper test. The directions to be read to the students by the person giving the test as well as sample test 1 items follow:

Directions for Test Administration. (To be read aloud by person giving test.)

Look at the sample in the box. You see the word "say." Now look at the part of the word where the "s" has been removed.
What two letters would you write in front of the "-ay" to make it say "clay?" (Pause.)

Now look at the first word and the part of a word beside it. (For each word say the following.)

The word is bad. Make it say glad, glad.

Sample Test and Answers.

<table>
<thead>
<tr>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substituting Initial Consonant Blends</td>
</tr>
<tr>
<td>Sample: say __ay</td>
</tr>
<tr>
<td>1. bad __'ad</td>
</tr>
</tbody>
</table>

Answers: Sample-clay, 1. glad

TIME LIMIT: 20 minutes

POSTTEST: The posttest given students will be comprised of twelve (12) items comparable to the sample items above.
Substituting Initial Consonant Blends

Sample: say ___ay

1. mow ___ow

2. care ___are

3. tray ___ay

4. class ___ad

5. rare ___are

6. trap ___ap

7. tank ___ank

8. gum ___um

9. ping ___ing

10. tame ___ame

11. bump ___ump

12. bring ___ing
Substituting Initial Consonant Blends

Sample: say __ay

1. bed __ed
2. pen __en
3. rain __ain
4. bride __ide
5. pink __ink
6. sip __ip
7. tame __ame
8. cow __ow
9. rank __ank
10. care __are
11. couch __ouch
12. bag __ag
Directions for Test Administration

DIFFERENTIATING BETWEEN
LONG AND SHORT VOWELS

(Put sample on board. Read the following aloud.)

Look at the sample. You see the vowel "a" in each of these words. I am going to pronounce these words and you circle the words in which you hear the long "a" sound. (Pronounce "brake," "van," "pain," "tale" pausing after each word.) Did you circle "brake," "pain," and "tale?" If you did you were correct. These words have a long "a" sound. (Circle the words on board.)

Look at Row 1. Circle the words that have a long "i" sound. The words are . . . (Pronounce each word in the row once pausing after each word. Continue in this manner each time saying)

CIRCLE THE WORDS IN ROW ___ THAT HAVE A _________ SOUND. THE WORDS ARE: ____________________.

Form A

1. (long i) fit right fine witch rice
2. (short a) rake fan spade batch fat
3. (long u) pump cup fuse music puff
4. (short e) red steep beat fetch ten
5. (long a) brace shade fast gage trap
6. (short i) ride wrist climb switch bit
7. (long o) boat stone rock top roast
8. (long e) bet beat sheet wet cleft
9. (short o) cot top poke dope cod
10. (short u) fuse up mule pump hutch

Form B

1. (long i) bit bright dine switch twice
2. (short a) bake tan fade hatch pat
3. (long u) lump pup due fuel tuft
4. (short e) fed creep sleep hedge bend
5. (long a) trace jade last stage flap
6. (short i) side twist dime pitch fit
7. (long o) moist lone clock bop toast
8. (long e) set wheat feet let chef
9. (short o) pot stop folk joke pod
10. (short u) clues jump spruce lump lunch
Distinguishing Between Long and Short Vowels

Sample: brake bat van pain tale

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>fit</td>
<td>right</td>
<td>fine</td>
<td>witch</td>
</tr>
<tr>
<td>2.</td>
<td>rake</td>
<td>fan</td>
<td>spade</td>
<td>batch</td>
</tr>
<tr>
<td>3.</td>
<td>pump</td>
<td>cup</td>
<td>fuse</td>
<td>music</td>
</tr>
<tr>
<td>4.</td>
<td>red</td>
<td>steep</td>
<td>best</td>
<td>fetch</td>
</tr>
<tr>
<td>5.</td>
<td>brace</td>
<td>shade</td>
<td>fast</td>
<td>gage</td>
</tr>
<tr>
<td>6.</td>
<td>ride</td>
<td>wrist</td>
<td>climb</td>
<td>switch</td>
</tr>
<tr>
<td>7.</td>
<td>boat</td>
<td>stone</td>
<td>rock</td>
<td>top</td>
</tr>
<tr>
<td>8.</td>
<td>bet</td>
<td>beat</td>
<td>sheet</td>
<td>wet</td>
</tr>
<tr>
<td>9.</td>
<td>cot</td>
<td>top</td>
<td>poke</td>
<td>dope</td>
</tr>
<tr>
<td>10.</td>
<td>fuse</td>
<td>up</td>
<td>mule</td>
<td>pump</td>
</tr>
</tbody>
</table>
**DIFFERENTIATING BETWEEN LONG AND SHORT VOWELS**

Sample: brake  bat  van  pain  tale

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>bit</td>
<td>bright</td>
<td>dine</td>
<td>switch</td>
<td>twice</td>
</tr>
<tr>
<td>2.</td>
<td>bake</td>
<td>tan</td>
<td>fade</td>
<td>hatch</td>
<td>pat</td>
</tr>
<tr>
<td>3.</td>
<td>lump</td>
<td>pup</td>
<td>dues</td>
<td>fuel</td>
<td>tuft</td>
</tr>
<tr>
<td>4.</td>
<td>fed</td>
<td>creep</td>
<td>sleep</td>
<td>hedge</td>
<td>bend</td>
</tr>
<tr>
<td>5.</td>
<td>trace</td>
<td>jade</td>
<td>last</td>
<td>stage</td>
<td>flap</td>
</tr>
<tr>
<td>6.</td>
<td>side</td>
<td>twist</td>
<td>dime</td>
<td>pitch</td>
<td>fit</td>
</tr>
<tr>
<td>7.</td>
<td>moat</td>
<td>lone</td>
<td>clock</td>
<td>bop</td>
<td>toast</td>
</tr>
<tr>
<td>8.</td>
<td>set</td>
<td>wheat</td>
<td>feet</td>
<td>let</td>
<td>chef</td>
</tr>
<tr>
<td>9.</td>
<td>pot</td>
<td>stop</td>
<td>folk</td>
<td>joke</td>
<td>pod</td>
</tr>
<tr>
<td>10.</td>
<td>clues</td>
<td>jump</td>
<td>spruce</td>
<td>lump</td>
<td>lunch</td>
</tr>
</tbody>
</table>
IDENTIFYING VOWEL AND SOUND

Sometimes a vowel has a long sound; it says its name, as in "take." Sometimes a vowel has a short sound, as in "fan." Sometimes a vowel is followed by "r" and is neither long nor short. We say we hear the vowel "with r" in the word "arm."

Look at the sample. Listen as I pronounce a word: "fail." What vowels do you hear? That's right, "a." Write that vowel letter in the blank in row "a." In the same row, draw a line around the word that tells what sound "a" has in the word "fail." Is it long, short, or with r? That's right, "long."

Do sample b: "Fan." (Pause.) What vowel did you write? That's right, "a." What sound did it have? That's right, "short."

Sample c: "Tar." (Pause.) What vowel did you write? That's right, "a." What sound did it have? That's right, "with r."

Look at number 1. (Pronounce the key words given below allowing time for students to write the vowel and identify the sound in each row. Say each key word twice.)

<table>
<thead>
<tr>
<th>Form A</th>
<th>Scoring Key</th>
<th>Form B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. slide</td>
<td>1. i</td>
<td>1. ride</td>
</tr>
<tr>
<td>2. mule</td>
<td>2. u</td>
<td>2. fuel</td>
</tr>
<tr>
<td>3. patch</td>
<td>3. a</td>
<td>3. hatch</td>
</tr>
<tr>
<td>4. yarn</td>
<td>4. a</td>
<td>4. barn</td>
</tr>
<tr>
<td>5. dress</td>
<td>5. e</td>
<td>5. less</td>
</tr>
<tr>
<td>6. please</td>
<td>6. e</td>
<td>6. crease</td>
</tr>
<tr>
<td>7. ship</td>
<td>7. i</td>
<td>7. flip</td>
</tr>
<tr>
<td>8. perk</td>
<td>8. e, u, or i</td>
<td>8. jerk</td>
</tr>
<tr>
<td>9. save</td>
<td>9. a</td>
<td>9. rave</td>
</tr>
<tr>
<td>10. pork</td>
<td>10. o</td>
<td>10. born</td>
</tr>
<tr>
<td>11. stove</td>
<td>11. o</td>
<td>11. flow</td>
</tr>
<tr>
<td>12. dirty</td>
<td>12. i, e, or u</td>
<td>12. shirt</td>
</tr>
<tr>
<td>13. sod</td>
<td>13. o</td>
<td>13. rod</td>
</tr>
<tr>
<td>14. burn</td>
<td>14. u, e, or i</td>
<td>14. churn</td>
</tr>
<tr>
<td>15. gun</td>
<td>15. u</td>
<td>15. sun</td>
</tr>
</tbody>
</table>
## IDENTIFYING VOWEL AND SOUND

**Sample:**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>a.</td>
<td>long</td>
<td>short</td>
<td>with r</td>
</tr>
<tr>
<td>b.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. ______ long short with r
2. ______ long short with r
3. ______ long short with r
4. ______ long short with r
5. ______ long short with r
6. ______ long short with r
7. ______ long short with r
8. ______ long short with r
9. ______ long short with r
10. ______ long short with r
11. ______ long short with r
12. ______ long short with r
13. ______ long short with r
14. ______ long short with r
15. ______ long short with r
Directions for Test Administration

VOWEL DIPHTHONGS AND DIGRAPHS

(Put sample on board. Read the following aloud.)

Look at the sample. These letters stand for sounds. Draw a circle around the letters that stand for the sound "ew." (Pronounce "o0" as in food) What letters did you circle? That's right, "e-w."

Look at the first row. Circle the letters that stand for the sound: (Pronounce each sound twice, but do not give the key word.)

<table>
<thead>
<tr>
<th>Form A</th>
<th>Form B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. oi (as in oil)</td>
<td>1. aw (as in saw)</td>
</tr>
<tr>
<td>2. au (as in haul)</td>
<td>2. oi (as in oil)</td>
</tr>
<tr>
<td>3. oy (as in boy)</td>
<td>3. eu (u as in feud)</td>
</tr>
<tr>
<td>4. aw (as in saw)</td>
<td>4. au (as in haul)</td>
</tr>
<tr>
<td>5. ou (as in house)</td>
<td>5. ou (as in house)</td>
</tr>
<tr>
<td>6. ew (o0 as in food)</td>
<td>6. oy (as in boy)</td>
</tr>
<tr>
<td>7. ow (as in cow)</td>
<td>7. ew (o0 as in food)</td>
</tr>
<tr>
<td>8. eu (u as in feud)</td>
<td>8. ow (as in cow)</td>
</tr>
<tr>
<td>9. ow (as in cow)</td>
<td>9. eu (u as in feud)</td>
</tr>
<tr>
<td>10. ew (o0 as in food)</td>
<td>10. aw (as in saw)</td>
</tr>
<tr>
<td>11. oy (as in boy)</td>
<td>11. ew (o0 as in food)</td>
</tr>
<tr>
<td>12. ou (as in boy)</td>
<td>12. ou (as in house)</td>
</tr>
<tr>
<td>13. au (as in haul)</td>
<td>13. ow (as in cow)</td>
</tr>
<tr>
<td>14. eu (u as in feud)</td>
<td>14. oy (as in boy)</td>
</tr>
<tr>
<td>15. oi (as in oil)</td>
<td>15. au (as in haul)</td>
</tr>
<tr>
<td>16. aw (as in saw)</td>
<td>16. oi (as in oil)</td>
</tr>
</tbody>
</table>
### Vowel Diphthongs and Digraphs

Sample: ou ee ew oi

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>oo</td>
<td>oi</td>
<td>ow</td>
<td>ea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>au</td>
<td>ew</td>
<td>ow</td>
<td>oa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ow</td>
<td>ea</td>
<td>oy</td>
<td>ai</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>ou</td>
<td>aw</td>
<td>ai</td>
<td>ea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>ea</td>
<td>aw</td>
<td>ou</td>
<td>oo</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6</td>
<td>oa</td>
<td>ow</td>
<td>oy</td>
<td>ew</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>ow</td>
<td>oi</td>
<td>aw</td>
<td>ow</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>au</td>
<td>eu</td>
<td>oy</td>
<td>ee</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>oi</td>
<td>aw</td>
<td>ow</td>
<td>oy</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10</td>
<td>ew</td>
<td>ea</td>
<td>aw</td>
<td>oa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>ai</td>
<td>oy</td>
<td>oo</td>
<td>ou</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>aw</td>
<td>oo</td>
<td>ou</td>
<td>ea</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13</td>
<td>au</td>
<td>oo</td>
<td>ow</td>
<td>ai</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>oy</td>
<td>eu</td>
<td>ee</td>
<td>aw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>ow</td>
<td>au</td>
<td>ae</td>
<td>oi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>aw</td>
<td>ou</td>
<td>oi</td>
<td>ai</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VOWEL DIPHTHONGS AND DIGRAPHS

Sample: ou ee ew oi

1. aw ou oi ai
2. ai ou aw oi
3. oy eu ee aw
4. au oo ow ai
5. aw oo ou ea
6. ai oy oo ou
7. ew ea oy aw
8. oo oi ow aw
9. oy eu ee oy
10. ow oi aw oy
11. ea aw ae ew
12. oo aw ou oi
13. ae aw oi ow
14. oa ow ew oy
15. au ou ae oi
16. ow oi au ae
DIRECTIONS FOR TEST ADMINISTRATION
Forms A and B

NUMBER OF VOWELS HEARD IN A WORD

(To be read aloud by the person giving test)

In every word you hear at least one vowel sound. If a word has more than one part you hear a vowel for each part.

Look at the sample. The first word is "twice." What vowels do you hear in twice? (Pause) That's right we hear an i. Draw a circle around the i, the vowel that we hear.

Look at the next word, "running." What vowels do you hear? (Pause) That's right, we hear a u and an i. Draw a circle around the u and the i, to show that u and i are the vowels we hear.

Listen as I pronounce each of the following words twice. Draw a line around every vowel you hear.
NUMBER OF VOWELS HEARD IN A WORD

Sample: twice running

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>basketball</td>
</tr>
<tr>
<td>2.</td>
<td>space</td>
</tr>
<tr>
<td>3.</td>
<td>children</td>
</tr>
<tr>
<td>4.</td>
<td>window</td>
</tr>
<tr>
<td>5.</td>
<td>debate</td>
</tr>
<tr>
<td>6.</td>
<td>merit</td>
</tr>
<tr>
<td>7.</td>
<td>flank</td>
</tr>
<tr>
<td>8.</td>
<td>memorize</td>
</tr>
<tr>
<td>9.</td>
<td>remake</td>
</tr>
<tr>
<td>10.</td>
<td>delete</td>
</tr>
<tr>
<td>11.</td>
<td>farmer</td>
</tr>
<tr>
<td>12.</td>
<td>engage</td>
</tr>
<tr>
<td>13.</td>
<td>music</td>
</tr>
<tr>
<td>14.</td>
<td>seaport</td>
</tr>
<tr>
<td>15.</td>
<td>bird</td>
</tr>
<tr>
<td>16.</td>
<td>pardon</td>
</tr>
<tr>
<td>17.</td>
<td>instill</td>
</tr>
<tr>
<td>18.</td>
<td>protect</td>
</tr>
<tr>
<td>19.</td>
<td>bank</td>
</tr>
<tr>
<td>20.</td>
<td>expert</td>
</tr>
</tbody>
</table>
NUMBER OF VOWELS HEARD IN A WORD

Sample: twice running

1. reproduce
2. trace
3. legend
4. priceless
5. relate
6. spirit
7. plank
8. astronaut
9. remind
10. locate
11. partner
12. enclose
13. human
14. retort
15. girl
16. picnic
17. index
18. program
19. tank
20. purpose
DIRECTIONS FOR TEST ADMINISTRATION

VOWEL PRINCIPLES:
BEGINNING AND MEDICAL VOWELS

(To be read aloud by the person giving the test.)

Look at the first sample word. What is it? (Pause.) That's right, "at." Is the sound for "a" long or short? (Pause.) That's right, short. Circle the letter "S" to show that the vowel "a" in "at" is short. Look at the next sample word. What is it? (Pause.) That's right, "be." What letter would you circle to show the sound of "e" in the word "be?" That's right, the letter "L" to show that the vowel "e" is long.

Each of the words below are not real words. They are make-believe words with each word having one vowel in them. You are to circle the "L" beside each make-believe word if you think the vowel should be long.

(Do not pronounce the words for pupils.)
### Vowel Principles

| Sample: at  | be  |
| L | S |

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>vart</td>
</tr>
<tr>
<td>2.</td>
<td>ba</td>
</tr>
<tr>
<td>3.</td>
<td>cru</td>
</tr>
<tr>
<td>4.</td>
<td>blip</td>
</tr>
<tr>
<td>5.</td>
<td>thi</td>
</tr>
<tr>
<td>6.</td>
<td>aft</td>
</tr>
<tr>
<td>7.</td>
<td>stu</td>
</tr>
<tr>
<td>8.</td>
<td>cre</td>
</tr>
<tr>
<td>9.</td>
<td>teb</td>
</tr>
<tr>
<td>10.</td>
<td>dri</td>
</tr>
<tr>
<td>11.</td>
<td>ind</td>
</tr>
<tr>
<td>12.</td>
<td>blo</td>
</tr>
<tr>
<td>13.</td>
<td>lut</td>
</tr>
<tr>
<td>14.</td>
<td>elb</td>
</tr>
<tr>
<td>15.</td>
<td>ve</td>
</tr>
<tr>
<td>16.</td>
<td>osht</td>
</tr>
<tr>
<td>17.</td>
<td>shmo</td>
</tr>
<tr>
<td>18.</td>
<td>zots</td>
</tr>
<tr>
<td>19.</td>
<td>gra</td>
</tr>
<tr>
<td>20.</td>
<td>unt</td>
</tr>
</tbody>
</table>
### Vowel Principles

**Sample:** at \( \_ \_ \_ \) be \( \_ \_ \_ \)

1. mart \( \_ L S \)
2. ca \( \_ L S \)
3. chu \( \_ L S \)
4. grip \( \_ L S \)
5. chi \( \_ L S \)
6. alt \( \_ L S \)
7. flu \( \_ L S \)
8. dre \( \_ L S \)
9. zeb \( \_ L S \)
10. cri \( \_ L S \)
11. imb \( \_ L S \)
12. slo \( \_ L S \)
13. dut \( \_ L S \)
14. ebb \( \_ L S \)
15. ste \( \_ L S \)
16. opht \( \_ L S \)
17. thro \( \_ L S \)
18. vots \( \_ L S \)
19. pra \( \_ L S \)
20. unk \( \_ L S \)
DIRECTIONS FOR TEST ADMINISTRATION
Forms A and B

VOWEL PRINCIPLE:
FINAL "e"

(To be read aloud by the person giving the test.)

Look at the first sample word. What is it? That's right, "bone". The word "bone" has two vowels in it. The first vowel is "o". Is the sound for "o" long or short in the word "bone"? (Pause) That's right, long. Circle the letter "L" to show that the vowel "o" is long. Look at the next sample word. What is it? (Pause). That's right, "lemon". The word "lemon" also has two vowels in it. What is the first vowel? (Pause) That's right, "e". What letter would you circle to show the sound of "e" in "lemon"? (Pause) That's right, "S", to show that the first vowel "e" is short in the word "lemon".

Each of the words below are not real words. They are make-believe words with each word having two vowels. You are to circle the letter "L" if you think the first vowel in each make-believe word is long. Circle the letter "S" if you think the first vowel is short.

(DO NOT PRONOUNCE THE WORDS FOR PUPILS).
<table>
<thead>
<tr>
<th></th>
<th>Word</th>
<th>LS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>rame</td>
<td>L S</td>
</tr>
<tr>
<td>2.</td>
<td>sila</td>
<td>L S</td>
</tr>
<tr>
<td>3.</td>
<td>rube</td>
<td>L S</td>
</tr>
<tr>
<td>4.</td>
<td>mote</td>
<td>L S</td>
</tr>
<tr>
<td>5.</td>
<td>bemí</td>
<td>L S</td>
</tr>
<tr>
<td>6.</td>
<td>tada</td>
<td>L S</td>
</tr>
<tr>
<td>7.</td>
<td>rile</td>
<td>L S</td>
</tr>
<tr>
<td>8.</td>
<td>fubo</td>
<td>L S</td>
</tr>
<tr>
<td>9.</td>
<td>kotí</td>
<td>L S</td>
</tr>
<tr>
<td>10.</td>
<td>lege</td>
<td>L S</td>
</tr>
<tr>
<td>11.</td>
<td>fleda</td>
<td>L S</td>
</tr>
<tr>
<td>12.</td>
<td>lute</td>
<td>L S</td>
</tr>
<tr>
<td>13.</td>
<td>kudu</td>
<td>L S</td>
</tr>
<tr>
<td>14.</td>
<td>jage</td>
<td>L S</td>
</tr>
<tr>
<td>15.</td>
<td>bige</td>
<td>L S</td>
</tr>
<tr>
<td>16.</td>
<td>dofi</td>
<td>L S</td>
</tr>
<tr>
<td>17.</td>
<td>zibe</td>
<td>L S</td>
</tr>
<tr>
<td>18.</td>
<td>mufta</td>
<td>L S</td>
</tr>
<tr>
<td>19.</td>
<td>cobe</td>
<td>L S</td>
</tr>
<tr>
<td>20.</td>
<td>gude</td>
<td>L S</td>
</tr>
</tbody>
</table>
VOWEL PRINCIPLE: FINAL (e)

Sample: bone  L S
         lemon  L S

1. zame  L S
2. cila  L S
3. gube  L S
4. wote  L S
5. cemi  L S
6. jada  L S
7. sile  L S
8. dubo  L S
9. zoti  L S
10. fege L S
11. gleda L S
12. sute L S
13. pduu L S
14. tage L S
15. kige L S
16. rofi L S
17. pibe L S
18. lufta L S
19. vobe L S
20. fude L S
AN ANALYSIS OF GENERAL VERSUS SPECIFIC INSTRUCTIONAL STRATEGIES FOR TEACHING READING AND THE EFFECTS OF MODELING BEHAVIOR ON APPLICATION OF SPECIFIC STRATEGIES

Faculty Research Project
North Texas State University
Denton, Texas
Dr. Robert K. Bane
Dr. Richard D. Gallian

COMPETENCY #7

Title: Identifying Vowels Heard in Words
Grade Level: 3rd, 4th

This project is funded in whole under a grant from the Faculty Research Office, NORTH TEXAS STATE UNIVERSITY, Denton, Texas, 1973-76, Grant No. 35674.
Competency 7
DIFFERENTIATING BETWEEN LONG AND SHORT VOWELS

Category: Word Recognition
Sub Category: Phonic Analysis

TEACHING TASK AND RATIONALE: Each of the single vowels (a, e, i, o, and u) has two basic sounds, commonly referred to as "long" and "short." When a vowel is "long" it has the same sound as its name. The short sounds of the vowels are: "a" as in "hat", "e" as in "pet", "i" as in "hit", "o" as in "hot", and "u" as in "bus."

As an aid to attacking unknown words, most phonics programs teach students several rules for determining whether a vowel in a word or syllable is pronounced long or short. These rules are of little value if the student cannot identify the vowel sounds heard in words or differentiate between long and short vowels.

Your task is to design activities that will enable the student to meet the following:

Instructional Objective

The student will be able to differentiate between long and short vowels when they are presented in dictated words.

EVALUATION: At the conclusion of the lesson the students will be evaluated with a pencil and paper test. The directions to be read to the students by the person giving the test as well as sample test items and answers follow:

Directions for Test Administration. (Put sample on board. Read the following aloud.)

Look at the sample. You see the vowel "a" in each of these words. I am going to pronounce these words and you circle the words in which you hear the long "a" sound. (Pronounce "brake," "bat," "van," "pain," "tale" pausing after each word.) Did you circle "brake," "pain," and "tale?" If you did you were correct. These words have a long "a" sound. (Circle the words on board.)

Look at Row 1. Circle the words that have a long "i" sound. The words are . . . (Pronounce each word in the row once pausing after each word. Continue in this manner each time saying)

CIRCLE THE WORDS IN ROW _______ THAT HAVE A _________ SOUND. THE WORDS ARE: ____________________.
Sample Test and Answers.

Test

Sample: brake bat van pain tale
1. hit might time pitch dice

Answers: Sample - brake, pain, tale.
1. might, time, dice.

TIME LIMIT: 20 minutes

POSTTEST: The posttest given students will be comprised of ten items comparable to the sample items above. Both the short and long vowel sounds for the vowels "a," "e," "i," "o," and "u" will be tested.
AN ANALYSIS OF GENERAL VERSUS SPECIFIC INSTRUCTIONAL STRATEGIES FOR TEACHING READING AND THE EFFECTS OF MODELING BEHAVIOR ON APPLICATION OF SPECIFIC STRATEGIES

Faculty Research Project
North Texas State University
Denton, Texas

Dr. Robert K. Bane
Dr. Richard D. Gallian

COMPETENCY NO. 7.1
Title: Identifying Vowel and Sound
Grade Level: 3rd, 4th

This project is funded in whole under a grant from the Faculty Research Office, NORTH TEXAS STATE UNIVERSITY, Denton, Texas, 1973-76, Grant No. 35674.
Competency 7.1
IDENTIFYING VOWEL AND SOUND

Category: Word Recognition
Sub Category: Phonic Analysis

TEACHING TASK AND RATIONALE: Each of the single vowels (a, e, i, o, and u) has two basic sounds, commonly referred to as "long" and "short." When a vowel is "long" it has the same sound as its name. The short sounds of the vowels are: "a" as in "hat", "e" as in "pet", "i" as in "hit", "o" as in "hot", and "u" as in "bus."

Single vowels also represent other sounds when followed by "r." The rule applicable here is: When the only vowel in a word is followed by "r" the vowel is neither long nor short; it is controlled by "r." The "r"-controlled vowel sounds are: "ar" as in "arm", "er" as in "fern", "ir" as in "shirt", "or" as in "torn", and "ur" as in "burn." The sounds made by "er", "ir", and "ur" are the same which usually presents no problem in reading, though some difficulty may arise in spelling.

As an aid to attacking unknown words, most phonics programs teach students rules for determining if a vowel is long, short, as well as the rule above for "r"-controlled vowels. The rules are of little value if the student cannot identify the vowel sounds heard in words or differentiate between long, short and "r"-controlled vowels in spoken words.

Your task is to design activities that will enable the student to meet the following:

Instructional Objective
The student will be able to identify the vowel heard in a dictated word and record whether its sound is long, short, or "r"-controlled.

EVALUATION: At the conclusion of the lesson the students will be evaluated with a pencil and paper test. The directions to be read to the students by the person giving the test as well as sample test items and answers follow:

Directions for Test Administration. (Put sample on board.
Read the following aloud.)

Sometimes a vowel has a long sound; it says its name, as in "take." Sometimes a vowel has a short sound, as in "fan." Sometimes a vowel is followed by "r" and is neither long nor short. We say we hear the vowel "with r" in the word "arm".

Look at the sample. Listen as I pronounce a word: "fail." What vowels do you hear? That's right, "a, " Write that vowel letter in the blank in row a. In the same row,
draw a line around the word that tells what sound "a" has in the word "fail." Is it long, short, or with r? That's right, "long."

Do sample b: "Pan." (Pause.) What vowel did you write? That's right, "a." What sound did it have? That's right, "short."

Sample c: "Tar." (Pause.) What vowel did you write? That's right, "a." What sound did it have? That's right, "with r."

Look at number 1. (Pronounce the key words given below allowing time for students to write the vowel and identify the sound in each row. Say each key word twice.)

1. Slide
2. Mule

Sample Test and Answers.

<table>
<thead>
<tr>
<th>Sample: a.</th>
<th>long</th>
<th>short</th>
<th>with r</th>
</tr>
</thead>
<tbody>
<tr>
<td>b.</td>
<td>long</td>
<td>short</td>
<td>with r</td>
</tr>
<tr>
<td>c.</td>
<td>long</td>
<td>short</td>
<td>with r</td>
</tr>
</tbody>
</table>

Answers:
Sample: a. a (long) short with r
b. a long short with r
c. a long short with r

1. 1. i (long) short with r
2. u (long) short with r

TIME LIMIT: 20 minutes

POSTTEST: Each of the five vowels will be tested once each for short, long, and "r"-controlled sounds for a total of fifteen (15) items comparable to the sample items above.
AN ANALYSIS OF GENERAL VERSUS SPECIFIC INSTRUCTIONAL STRATEGIES FOR
TEACHING READING AND THE EFFECTS OF MODELING
BEHAVIOR ON APPLICATION OF
SPECIFIC STRATEGIES

Faculty Research Project
North Texas State University
Denton, Texas
Dr. Robert K. Bane
Dr. Richard D. Gallian

COMPETENCY NO. 7.2
Title: Vowel Diphthongs and Digraphs
Grade Level: 3rd, 4th

This project is funded in whole under a grant from the Faculty Research
Office, NORTH TEXAS STATE UNIVERSITY, Denton, Texas, 1973-76, Grant No.
35674.
Competency 7.2

VOWEL DIPHTHONGS AND DIGRAPHS

Category: Word Recognition
Sub Category: Phonic Analysis

TEACHING TASK AND RATIONALE: A vowel diphthong is made up of two adjacent vowels, both of which contribute to the sound heard. Each vowel making up the diphthong retains something of its own identity. Diphthongs are to vowels what blends are to consonants. The most common diphthongs are "oi," "oy," "ou," and "ow." The diphthongs "oi" and "oy" have the same sound, as in "boil" and "toy." Likewise, "ou" and "ow" have the same sound, as in "ouch" and "plow."

A vowel digraph refers to the presence of two adjacent vowels where the sound of only one is heard. There are two groups of digraphs. In one group, the first vowel usually has its long sound and the second vowel is unsounded, as in the case of "boat," "train," "beach," "play," "feet." Teachers often teach this group with the rule, "When two vowels go walking, the first one does the talking."

There is another group of vowel digraphs, however, which does not follow this rule. The vowel sound is not the sound of the first letter. This group consists of "aw" and "au" which have identical sounds as in "saw" and "taught." Also included are "ew," "eu," "oo," and "o". The digraph "ew" as in "blew" usually has the sound of the long "oo" as in "food." The digraph "eu" has the sound of long "u" as in "feud." The short "oo" has the sound heard in "good."

In this competency you will focus on the vowel diphthongs "oi," "oy," "ou," and "ow" and on the vowel digraphs "au," "aw," "ew," and "eu." Your task is to design instructional activities that will enable the student to meet the following:

Instructional Objective

The student will be able to identify the letters representing the vowel diphthongs ("oi," "oy," "ou," "ow") or digraphs ("au," "aw," "ew," "eu") he hears when these sounds are dictated.

EVALUATION: At the conclusion of the lesson the students will be evaluated with a pencil and paper test. The directions to be read to the students by the person giving the test as well as sample test items and answers follow:

Directions for Test Administration. (Put sample on board. Read the following aloud.)

Look at the sample. These letters stand for sounds. Draw a circle around the letters that stand for the sound "ew." (I pronounce "oo" as in food) What letters did you circle? That's right, "e-w."
Look at the first row. Circle the letters that stand for the sound: (Pronounce each sound twice, but do not give the key word.)

1. aw (as in saw)

Sample Test and Answers.

Sample: ei ou oi ew

1. ou aw oi ai

Answers: Sample - ew
1. aw

TIME LIMIT: 20 minutes

POSTTEST: Each of the four vowel diphthongs and four vowel digraphs will be tested twice for a total of sixteen (16) items comparable to the sample above.
AN ANALYSIS OF GENERAL VERSUS SPECIFIC INSTRUCTIONAL STRATEGIES FOR
TEACHING READING AND THE EFFECTS OF MODELING
BEHAVIOR ON APPLICATION OF
SPECIFIC STRATEGIES

Faculty Research Project
North Texas State University
Denton, Texas

Dr. Robert K. Bane
Dr. Richard D. Gallian

COMPETENCY NO. 8

Title: Identifying Vowels Heard in Words
Grade Level: 3rd, 4th

This project is funded in whole under a grant from the Faculty Research Office, NORTH TEXAS STATE UNIVERSITY, Denton, Texas, 1973-76, Grant No. 35674.
Competency 8
NUMBER OF VOWELS HEARD IN A WORD

Category: Word Recognition
Sub Category: Phonic Analysis

TEACHING TASK AND RATIONALE: The identification of words of more than one syllable requires more than phonic analysis. With only phonics to help in the identification of unknown polysyllabic words, children would be confused by the length of the words and the vowel-consonant letter patterns. Through structural analysis a child learns to break a word down into syllables. The syllable then becomes the pronounceable unit to which phonic analysis is applied.

Prior to instruction on syllabication (the process of breaking polysyllabic words down into separate syllables), the student should have developed an understanding of the meaning of the term "syllable." A syllable is a word or part of a word in which a vowel sound is heard. The number of vowel sounds heard in a word represent the number of syllables. Importantly, it should be noted that the number of vowel letters in a word and the number of vowel sounds are not necessarily the same. For example, the word "love" has two vowel letters but only one vowel sound.

In addition to knowing the meaning of the term "syllable," the student should also be able to identify the number of syllables in a word by the number of vowel sounds he hears. This auditory perception of syllables promotes understanding of the syllable as a pronunciation unit in words. Your task is to design instructional activities to promote this skill as stated in the following:

Instructional Objective

The student will be able to indicate the vowels he hears in dictated words of one or more syllables.

EVALUATION: At the conclusion of the lesson the students will be evaluated with a pencil and paper test. The directions to be read to the students by the person giving the test as well as sample test items and answers follow:

Directions for Test Administration. (Put sample on board. Read the following aloud.)

In every word you hear at least one vowel sound. If a word has more than one part you hear a vowel for each part.

Look at the sample. The first word is "twice." What vowels do you hear in twice? (Pause.) That's right, we hear an i. Draw a circle around the i, the vowel that we hear.

Look at the next word, "running." What vowels do you hear? (Pause.) That's right, we hear u and an i. Draw a circle around the u and the i, to show that u and i are the vowels we hear.
Listen as I pronounce each of the following words twice. Draw a circle around every vowel you hear.

Sample Test and Answers.

Sample: **twice** running

1. **e c h o**

Answers: Sample - **t w i c e** running

1. **e c h o**

**TIME LIMIT:** 20 minutes

**POSTTEST:** The posttest is comprised of twenty (20) items comparable to the sample above. One, two, and three syllable words are included with the long and short sounds of all vowels.
AN ANALYSIS OF GENERAL VERSUS SPECIFIC INSTRUCTIONAL STRATEGIES FOR 
TEACHING READING AND THE EFFECTS OF MODELING 
BEHAVIOR ON APPLICATION OF 
SPECIFIC STRATEGIES

Faculty Research Project 
North Texas State University 
Denton, Texas 
Dr. Robert K. Bane 
Dr. Richard D. Gallian 

COMPETENCY NO. 9

Title: Application of Vowel Principles: 
Beginning, Medial, Ending Positions 
Grade Level: 3rd, 4th 

This project is funded in whole under a grant from the Faculty Research 
Office, NORTH TEXAS STATE UNIVERSITY, Denton, Texas, 1973-76, Grant No. 
35674.
Competency 9

APPLICATION OF VOWEL PRINCIPLES:
BEGINNING, MEDIAL, ENDING POSITIONS

Category: Word Recognition
Sub Category: Phonic Analysis

TEACHING TASK AND RATIONALE: One of the most perplexing characteristics of the English language is the variable sounds of vowels. For example, over ten different sounds have been identified by linguists for the vowel "a".

Considerable emphasis is placed on teaching auditory perception of vowel sounds in most reading programs. That is, students are taught to identify the particular long, short, or r-controlled vowel heard in pronounced words. This ability is of little value, however, unless the student can tell which of its variable sounds a vowel will have in unfamiliar words. Without certain principles (rules) to guide him how will the child know whether the "o" in "dog" or the "e" in "me" is short or long?

Two vowel principles which are particularly useful for analyzing words and syllables are the focus of this competency. They are:

1. A single vowel at the beginning of or middle of a word usually has the short sound

2. When there is only one vowel in a word, it is usually long if it comes at the end of the word.

The first principle can be applied to a large number of words though it hold true only about 70 percent of the time. Justification for teaching the rule stems from the fact that the student is given something to start with. The student should be taught to try the short sound first, in analyzing words that conform to the pattern. Then he should check his results against the context to see if it makes sense. If this doesn't work try the long vowel sound. Another way of putting it is—first use the rule, then use your head.

The second principle holds true a high percentage of time but there is a low incidence of monosyllable words with one vowel at the end. The teaching of this rule can be justified because of its applicability to syllables in multisyllabic words.

Ability to apply these principles will enable the student to determine whether the vowel is long or short. He must then, of course, be able to call to mind the particular sound of the vowel in question which should have been previously learned.

Your task is to design activities that will enable the student to meet the following:

Instructional Objective

The student will be able to apply two vowel principles by indicating if the vowel is long or short in monosyllable nonsense words. The vowel principles Are: (1) A single vowel at the beginning or middle of a word usually has the short sound, (2) When there is only one vowel in a word, it is usually long if it comes at the end of the word.
EVALUATION: At the conclusion of the lesson the students will be evaluated with a pencil and paper test. The directions to be read to the students by the person giving the test as well as sample test items and answers follow:

DIRECTIONS FOR TEST ADMINISTRATION

(To be read aloud by the person giving the test.)

Look at the first sample word. What is it? (Pause.) That's right, "at". Is the sound for "a" long or short? (Pause.) That's right, short. Circle the letter "s" to show that the vowel "a" in "at" is short. Look at the next sample word. What is it? (Pause.) That's right, "be." What letter would you circle to show the sound of "e" in the word "be"? That's right, the letter "e" to show that the vowel "e" is long.

Each of the words below are not real words. They are make-believe words with each word having one vowel in them. You are to circle the "L" beside each make-believe word if you think the vowel should be long.

(Do not pronounce the words for pupils.)

Sample Test and Answers:

<table>
<thead>
<tr>
<th>Sample: at</th>
<th>L</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>be</td>
<td>L</td>
<td>S</td>
</tr>
<tr>
<td>1. tam</td>
<td>L</td>
<td>S</td>
</tr>
</tbody>
</table>

TIME LIMIT: 20 minutes

POSTTEST: The posttest is comprised of twenty (20) items comparable to the sample above. Nonsense words are used to preclude the possibility of the child knowing the words he is to analyze.
AN ANALYSIS OF GENERAL VERSUS SPECIFIC INSTRUCTIONAL STRATEGIES FOR
TEACHING READING AND THE EFFECTS OF MODELING
BEHAVIOR ON APPLICATION OF
SPECIFIC STRATEGIES

Faculty Research Project
North Texas State University
Denton, Texas
Dr. Robert K. Bane

COMPETENCY #10
Title: Vowel Principle: Final (e)
Grade Level: 3rd, 4th

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Office, NORTH TEXAS STATE UNIVERSITY, Denton, Texas, 1973-76, Grant No.
35674.
Competency 10

VOWEL PRINCIPLE
FINAL "e"

Category: Word Recognition
Sub Category: Phonic Analysis

TEACHING TASK AND RATIONALE: One of the most perplexing characteristics of the English language is the variable sounds of vowels. For example, over ten different sounds have been identified by linguists for the vowel "a."

Considerable emphasis is placed on teaching auditory perception of vowel sounds in most reading programs. That is, students are taught to identify the particular long, short, or r-controlled vowel heard in pronounced words. This ability is of little value, however, unless the student can tell which of its variable sounds a vowel will have in unfamiliar words. Without certain principles (rules) to guide him how will the child know whether the "o" in 'dog" or the "e" in "me" is short or long?

A vowel principle particularly useful for analyzing words is the focus of this competency. The principle states:

When there are two vowels in a word, one of which is a final "e", the first vowel usually has the long sound and the final "e" is not sounded.

Although the principle does not always apply (e.g. "have", "love") used along with the context it is very helpful.

Your task is to design activities that will enable the student to meet the following:

Instructional Objective

The student will be able to apply the "final-e" vowel principle by indicating if the first vowel is long or short in monosyllable nonsense words. The vowel principle states: When there are two vowels in a word that ends in "e" the first vowel usually has the long sound and the final "e" is not sounded.

EVALUATION: At the conclusion of the lesson the students will be evaluated with a pencil and paper test. The directions to be read to the students by the person giving the test as well as sample test items and answers follow:
DIRECTIONS FOR TEST ADMINISTRATION

(To be read aloud by the person giving the test.)

Look at the first sample word. What is it? That's right, "bone." The word "bone" has two vowels in it. The first vowel is "o." Is the sound for "o" long or short in the word "bone?" (Pause.) That's right, long. Circle the letter "L" to show that the vowel "o" is long. Look at the next sample word. What is it? (Pause.) That's right, "lemmon." The word "lemmon" also has two vowels in it. What is the first vowel? (Pause.) That's right, "e." What letter would you circle to show the sound of "e" in lemmon? (Pause.) That's right, "S", to show that the first vowel "e" is short in the word "lemmon."

Each of the words below are not real words. They are make-believe words with each word having two vowels. You are to circle the letter "L" if you think the first vowel in each make-believe word is long. Circle the letter "S" if you think the first vowel is short.

(Do not pronounce the words for pupils.)

Sample Test and Answers

| Sample:bone | L S |
| lemon       | L S |
| 1. zan      | L S |

Answers: Sample - bone (L), lemon (S)
1. zan - (S)

TIME LIMIT: 20 minutes

POSTTEST: The posttest is comprised of twenty (20) items comparable to the sample above. Nonsense words are used to preclude the possibility of the child knowing the words he is to analyze.
I. **Overview:** You are to teach a group of 5-7 children a phonic word attack skill. The skill will be given to you. The names of the children to whom you are to teach the skill will be given to you. The lesson is not to exceed 20 minutes. You will teach one competency a week. As now planned, each competency will be taught on Wednesday mornings at 11:00 o'clock. The skill you are to teach will be given to you on Tuesday's before the Wednesday they are to be taught. The lesson is to be taped. You will give a posttest but you will not score the test. The results will be given to you each week.

II. **Planning:** You are to use the procedures which you were taught to use. The lesson must not exceed 20 minutes. This does not include the time to give the posttest. The posttest can usually be given in ten minutes after the 20 minutes of instruction.

III. **Materials Needed:**

1. You will need a cassette tape recorder. If you do not own one then you will need to locate one in your school which you can use.

2. Tapes will be supplied.

3. Whatever you wish to use.

IV. **How To Make a Good Tape:**

1. First, know how to operate the tape recorder. If you do not know, then ask.

2. Place the microphone on a book or towel so that it will not pick up vibrations from a wooden table. Do not set microphone on top of the tape recorder.

3. Arrange your group as nearly as possible in one of the following arrangements.

4. Spend a few minutes learning names. Use cards with children's names on them.
V. Important Things to Remember

--You should plan to arrive at the school by 10:45 a.m.

--The time schedule must be rigidly observed. These children eat lunch at 11:50 so they must be back in their rooms by 11:45.

--When you begin your lesson, use the checklist below. Have the checklist before you.

VI. Checklist for making tape:

_____ Give your name and date.

_____ State name and number of competency taught.

_____ Indicate grade level taught.

_____ Ask children to say first names into microphone.

_____ Note time on clock. Adhere to 20 minute time limit.

_____ Begin lesson.

_____ Give post-test.
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