

12-1978

The Effects of Criterion-Referenced Reading Program on Attitude and Achievement

Jeannie P. Garnes
The College at Brockport

Follow this and additional works at: https://digitalcommons.brockport.edu/ehd_theses

 Part of the [Elementary Education Commons](#), and the [Language and Literacy Education Commons](#)

To learn more about our programs visit: <http://www.brockport.edu/ehd/>

Repository Citation

Garnes, Jeannie P., "The Effects of Criterion-Referenced Reading Program on Attitude and Achievement" (1978). *Education and Human Development Master's Theses*. 1008.
https://digitalcommons.brockport.edu/ehd_theses/1008

This Thesis is brought to you for free and open access by the Education and Human Development at Digital Commons @Brockport. It has been accepted for inclusion in Education and Human Development Master's Theses by an authorized administrator of Digital Commons @Brockport. For more information, please contact kmyers@brockport.edu.

THE EFFECTS OF A CRITERION-REFERENCED READING PROGRAM
ON ATTITUDE AND ACHIEVEMENT

THESIS

Submitted to the Graduate Committee of the
Department of Curriculum and Instruction
Faculty of Education
State University College at Brockport
in Partial Fulfillment of the
Requirements for the Degree of
Master of Science in Education

by

Jeannie P. Garnes

State University College at Brockport

Brockport, New York

December, 1978

APPROVED BY:

<u>Arthur E. Smith</u>	<u>12/20/78</u>
Graduate Advisor	Date
<u>George L. Begg</u>	<u>12/20/78</u>
<u>Arthur E. Smith</u>	<u>12/20/78</u>
Project Advisor	Date
<u>Ralph Jordan</u>	<u>29 Dec 78</u>
Graduate Director	Date

Abstract

The purpose of this study was to investigate the correlation between the scores of third grade students on a criterion-referenced reading test and their attitudes toward reading. The instruments used were the Spencerport/Houghton Mifflin Criterion-Referenced Test--Read (CRT) and the Fiddler Reading Attitude Questionnaire (FRAT). There were two heterogeneously grouped classes involved, a total of fifty-two students.

Statistical analysis indicated that the correlation of the results of the pretests showed a significant relationship between positive attitude toward reading and successful performance on the CRT. The analysis of the posttest results failed to show a significant correlation between attitude and achievement. There was no significant difference in the attitudes of the students after participating in the CRT program.

Table of Contents

	Page
List of Tables	iii
Chapter	
I. Statement of the Problem	1
Purpose	1
Questions to be Answered	1
Need for the Study	1
Definition of Terms	3
Limitations	4
Summary	4
II. Review of the Literature	5
Areas of Research	5
Summary	12
III. Design of the Study	14
Hypotheses	14
Methodology	14
Summary	17
IV. Analysis of Data	18
Statistical Analysis	18
Summary	20
V. Conclusions and Implications	21
Conclusions	22
Implications for Classroom Practice	23
Implications for Future Research	25
References	27
Appendices	
A. Fiddler Reading Attitude Questionnaire	33
B. Fiddler Reading Attitude Questionnaire	
Norms Table	42

List of Tables

Page

Table

1. Correlation Between CRT and FRAT Pretest and Posttest Scores 18
2. Rating of the Students' Scores According to FRAT Norms 19
3. Comparison of Students' Scores on the FRAT Pretest and Posttest 20

Chapter I

Statement of the Problem

Purpose

The purpose of this quasi-experimental study is to investigate the relationships between the performance of third graders on a criterion-referenced reading test and their attitudes toward reading.

Questions to be Answered

The answers to the following questions are sought:

1. What is the relationship between children's scores on the Spencerport/Houghton Mifflin Criterion Referenced Test (CRT) pretest and their attitudes toward reading on the pretest of the Fiddler Reading Attitude Test (FRAT)?

2. What is the relationship between the children's scores on the CRT posttest and their attitudes toward reading in the posttest of the FRAT?

3. Do the results on the second FRAT reflect any change in attitude toward reading after participation in the CRT project?

Need for the Study

Attitudes

To be successful, any program of reading instruction must go beyond the mere teaching of reading skills. While many reading

programs concentrate on the cognitive areas (word attack, comprehension, and study skills), the affective components (attitudes, interests, habits, and tastes) require equal attention. This study will focus on attitudes.

Although there is little disagreement concerning the importance of a positive attitude in assuring maximal success in reading, there are a limited number of studies devoted to the relationship between attitudes and reading. Wilson and Hall (1971) state that a positive attitude is "essential for mastery of the printed page" (p. 11). Askov and Fishbach (1973) suggest that schools should focus on the improvement of reading skills and achievement, since attitudes become more positive with improved achievement.

Therefore, educators cannot afford to ignore the attitudes of their students, for attitudes are extremely important in the acquisition of reading skills and the continued use of reading for information and recreation.

Criterion-Referenced Testing

As society demands more accountability from schools for their reading instruction, the need for precise measures of instructional outcomes is evident. The traditional standardized instruments maximize the discrimination among individuals in reference to a widespread population. Criterion-referenced tests are designed to assess an individual's status with respect to his or her performance on curriculum objectives. The increase in the availability and use

of criterion-referenced instruments warrants an investigation of their development, implementation, and effects.

Definition of Terms

1. Criterion-referenced test: measures which are used to ascertain an individual's status with regard to some criterion, i.e., a performance standard (Popham and Husek, 1969). Several published criterion-referenced tests are available for reading, and arithmetic. Items are described in highly specified objectives; the number of objectives varying from thirty to nearly two hundred on any one test. Mastery scoring is used regularly; the individual's performance being judged as indicating mastery or nonmastery on each skill. The tests are diagnostic and prescriptive, with the performance records often keyed to basic texts, workbooks, and supplementary materials to which the student is directed.

2. Spencerport/Houghton Mifflin Criterion-Referenced Test (CRT): an adaptation of the Houghton Mifflin Individual Pupil Monitoring Systems (IPMS). The test items from the IPMS were correlated with the critical skills identified from the Scope and Sequence of Reading Skill Objectives. The IPMS is composed of two forms (A and B) for reading instruction, Levels 1-6. There are five items for each objective in the areas of Word Attack, Vocabulary/Comprehension, Discrimination, and Study Skills. The booklets have been arranged in two formats. They may be used in the original form as pretests and posttests, with answer sheets based on Spencerport's Critical

Objectives. The alternative form has the tests organized as kits for individual skill assessment.

3. Attitudes: "The state of readiness organized through experience exerting a directive and/or dynamic influence upon the individual's response toward all objects or situations with which it is related" (Allport, 1935).

4. Fiddler Reading Attitude Test (FRAT: a questionnaire composed of one hundred statements developed by the author as the basis for his doctoral dissertation (1974).

Limitations

The sample was limited to two heterogeneous homerooms in a middle-class suburban school district. There were fifty-two students and two classroom teachers involved in the study for a time span of four months.

The assessment of attitude toward reading was limited to the evaluation by the FRAT. The criterion-referenced instrument used was the Spencerport/Houghton Mifflin Criterion-Referenced Test (CRT).

Summary

The increased awareness of the influence of attitude on scholastic achievement and the trend toward diagnostic-prescriptive teaching has prompted educators to examine assessment tools more closely. This study will examine the relationships between student performance on instruments intended to measure both attitude and specific skill achievement.

Chapter II

Review of the Literature

Areas of Research

Criterion-Referenced Testing

A concern for student performance on standardized tests and the subsequent calls for schools to be held more accountable for their instruction has led to the trend of a diagnostic-prescriptive approach to teaching. The New York State Regents Paper #12 (1971) advocates this method as the most desirable approach to learning. In the position paper, the Regents made recommendations for evaluating student achievement and program effectiveness more thoroughly than in the past. This requires criterion-referenced tests rather than traditional norm-referenced measures. Norm-referenced tests maximize the discrimination among individuals within groups in reference to a widespread population. Criterion-referenced tests are designed as procedures which allow educators to monitor an individual's strengths and weaknesses in a given area, even though the tests may be administered in a group situation (Glaser, 1963).

The term criterion-referenced testing is used somewhat loosely and its definition varies among different writers:

- 1) A criterion-referenced test is one that is deliberately constructed to yield measurements that are directly interpretable in terms of specified performance standards (Glaser and Nitko, 1971).

2) A pure criterion-referenced test is one consisting of a sample of production tasks drawn from a well-defined population of performances in that population at which the student can succeed (Harris and Steward, 1971).

3) Criterion-referenced measures are those which are used to ascertain an individual's status with respect to some criterion, i.e., a performance standard (Popham and Husek, 1969).

Several alternative terms are also commonly used, such as content-referenced, domain-referenced and objective-referenced.

Criterion-referenced testing uses as its interpretive frame of reference, a specified domain rather than a specified population of persons. Popham and Husek (1969) have provided in-depth discussions of the measurement implications of crucial differences between criterion-referenced and norm-referenced testing. In criterion-referenced testing, an examinee's test performance may be reported in terms of specified curriculum objectives.

Criterion-referenced testing is prominent in several recent innovations in education such as computer assisted, computer managed, and other individualized, self-paced instructional systems (Anastasi, 1976). In all of these systems, testing is closely integrated with instruction, and is introduced before, during, and after completion of each instructional unit to check on prerequisite skills, diagnose possible learning difficulties, and prescribe subsequent instructional procedures.

Criterion-referenced testing is also used in broad surveys of educational accomplishment, such as the National Assessment of Educational Progress (Womer, 1970) and in meeting the demands of educational accountability (Gronlund, 1974). The National Assessment of Educational Progress (NAEP) was created to serve as a direct measure of educational outcomes which could be utilized by school systems to improve the educational process. A descriptive analysis of the assessment activities of NAEP is presented by Wilson (1974).

Gronlund (1973) provides a guide for using criterion-referenced testing to improve the traditional, informal tests prepared by teachers for classroom use. The major distinguishing feature of criterion-referenced testing is its interpretation of test performance in terms of content meaning. The focus is clearly on what the person knows and what he or she can do.

A fundamental requirement in constructing this type of test is a clearly defined domain of knowledge or skills to be assessed by the test. The selected domain must be subdivided into smaller units defined in performance terms. In an educational context, these units correspond to behaviorally defined instructional objectives. After the instructional objectives have been formulated, items are prepared to sample each objective (Hively, 1970).

A second major feature usually found in criterion-referenced testing is the procedure of testing for mastery. Carroll (1963) proposed a model in which the individual would be allowed enough time to learn what he or she needed to learn as a background for the next stage, interpreting aptitude for a task as essentially the time

required for the individual to master the task. This approach was adopted by Bloom and his associates and developed into an instructional plan known as mastery learning, based on the guiding principle that the learner should achieve mastery before going on to the next level or task (Bloom, 1968; Block, 1971). Studies by Guttman (1944) and Tucker (1952) called for the expansion of the mastery system and in 1951, Flanagan reported a need for a distinction between absolute standards of performance and norm-referenced measurements. Miles and Robinson (1971) stated that it is more informative and helpful to say that a student achieved a specific criterion level of performance rather than to make a comparison to a given group.

Block (1971) stated that maximum classroom instruction takes place when criterion-referenced assessment is used as a feedback/correction system. Criterion-referenced measurements focus on the individual's ability to function on each sort of item which provides invaluable information for instruction (Boehm, 1973). Teachers should then be able to plan more specifically and set up objectives which adhere to the child's individual needs.

Despite the great appeal of the mastery concept, however, several problems remain unsolved. Most important, present psychometrics and theories of mastery learning have not provided a means for establishing an educationally useful definition of mastery. Cronbach (1971) argues that a single mastery score may be inadequate; that absolute scores are not appropriate for the wide range of student aptitudes and needs.

In addition, persons expressing negative views toward criterion-referenced systems contend that they require an unrealistic degree of detail when identifying objectives or skills (Ebel, 1971). The studies emphasize the difficulty in measuring student performance in a valid, reliable and useable way. In particular, these studies suggest that such traditional standards which focus on validity and reliability, including item analysis procedures, need to be applied to criterion-referenced tests. Otto (1973) states several precautions in the use of criterion-referenced models:

- 1) The necessity of writing objectives which involve hard to measure qualities.
 - 2) The demonstration of mastery may outweigh the emphasis on retention and transfer of skills needed.
 - 3) The determination of acceptable standards may create problems.
- Ten Brink (1974) observes that typically, criterion-referenced measurements have only a few items for each objective and questions the reliability of these measures.

Attitude

Research on attitude development and maintenance suggests that this affective component tends to be unique, personal, and highly unpredictable. Wilson and Hall (1971) state that a positive attitude is essential for mastery of the printed page. Although a limited number of studies deal specifically with attitude toward reading, several variables thought to be associated with attitudes have been investigated. In conjunction with the purpose of this study, those

studies related to achievement, classroom environment, instructional practices and special programs will be cited.

A limited amount of research is available on the relationship between attitudes toward reading and achievement in reading. Ransbury's study (1973) of 60 fifth and sixth grade students reported that the children attributed their attitude toward reading mainly to their ability to read. Askov and Fishbach (1973) focused on attitudes toward recreational reading and achievement, sex, and grade placement. The researchers stated that a favorable attitude toward recreational reading might indeed be associated with good readers who have few comprehension difficulties. They further stated that perhaps the effort of the school should be focused on the improvement of reading skills, since attitudes become more positive with improved achievement.

Groff (1962) investigated the relationship between attitude toward concept-type material and critical reading scores of fifth and sixth grade students. He suggested that the reading comprehension of an individual is influenced to a degree by his/her attitude toward the content type of material being read.

Healy (1965) conducted a longitudinal study of the effects on achievement of changing attitudes toward reading. This was a follow-up of an earlier study (1963) in which Healy reported the attitudes of fifth graders toward reading could be changed in an experimental setting. The plan most conducive to positive attitude change was one in which the children were allowed to choose their reading group according to interests and select their own reading material from a

wide assortment. In the 1965 study, a significant difference in reading achievement was found between those students who had been in the experimental setting and others who had not been in that situation. The researcher concluded that the change in the attitude of the children toward reading appeared to increase their achievement and encourage more reading.

Classroom environment and its effect on students' attitude has been investigated by Healy (1963), and Carver (1971). Healy concluded that a large portion of her subjects who had poor attitudes toward reading had initially been in classrooms where they had received formal reading instruction prior to successful attainment of readiness skills. In Carver's study, a seven month remediation program was deemed effective to the participants. The research suggested that group atmosphere and approval had altered the children's attitude and motivation for learning.

Studies pertaining to instructional practices and special programs also provide inconclusive results. Levenson (1973) reported that rigid ability grouping may be a negative practice. In his unpublished doctoral dissertation, Levenson supported more individualized and personalized approaches to reading. Gurney (1966) investigated the effects of an individualized reading program on achievement and reading attitude. He suggested that the members of the experimental class may have responded favorably on the attitude scales because of their special status as sole users of the material. Squire (1969) concluded that the effects of instructional practice and special programs can, but do not necessarily, affect attitudes.

The few studies available on mental ability and reading attitudes suggest that more intelligent students will not necessarily have more positive attitudes toward reading. Hansen (1969) indicated that although test intelligence may directly relate to reading test achievement, it may not be a valid indication of reading attitude. One aspect of a study by Groff (1962) found negligible relationships between intelligence according to critical reading scores and attitude expressed toward reading.

Measurement of attitudes towards reading may involve several types of instruments or informal techniques: observation, interviews, questionnaires, incomplete sentences, pairing sentences, and the semantic differential. Six categories are suggested by Tinker and McCullough (1975) for a comprehensive instrument. These categories would sample behaviors that are indicators of attitudes toward school in general, books and reading, the teacher, the reading environment, class activities, and reading work habits. Rowell (1972) believes that attitudes toward reading for pleasure, reading in content areas, and reading in the "reading class" should be sampled. Whatever the style of assessment used, caution should be used, in interpreting them (Alexander and Filler, 1976). The responses may indicate how a student thinks he or she should feel rather than how they actually feel.

Summary

The purpose of this chapter was to present a review of the literature in the areas of criterion-referenced testing and attitudes toward reading. Criterion-referenced tests are seen by many educators

as the instruments which allow them to pinpoint a student's weaknesses in skill areas and accurately prescribe activities which will eliminate them successfully. Several studies were cited which question the construction and scoring on criterion-referenced measures.

A review of the literature revealed a limited number of studies which focused specifically on attitudes toward reading. In conjunction with the purpose of this study, those related to achievement, classroom environment, instructional practices and special programs were reported.

Chapter III

Design of the Study

The purpose of this study was to investigate the relationship between a criterion-referenced instrument and the attitude of students toward reading.

Hypotheses

The following null hypotheses were tested:

1. There is no significant correlation between the scores of the children as indicated by the CRT pretest and the first FRAT.
2. There is no significant correlation between the scores of the children as indicated by the CRT posttest and the second FRAT.
3. There is no significant difference in the students' attitude toward reading before and after participation in the CRT project.

Methodology

Instruments

Two instruments were used to analyze the correlation between a criterion-referenced test and students' attitude toward reading.

Spencerport/Houghton Mifflin Criterion-Referenced Test (CRT) is an adaptation of the Houghton Mifflin Individual Pupil Monitoring System-Read (IPMS), 1974.

During the summer of 1976, staff members of the elementary buildings identified the crucial reading objectives from each level of the district's Scope and Sequence of Reading Skills, a division of the Spencerport Language Arts Guide, 1972. These objectives were correlated to synonymous test items in the IPMS booklets.

The IPMS tests are based on behavioral objectives for levels one through six. This investigation used level three. Level three is separated into three booklets, covering five areas of reading-- Word Attack, Vocabulary and Comprehension, and Discrimination and Study Skills. At level three, there are a total of fifty-eight tests. Each test measures one behavioral objective with five items per test.

Although the complete booklets were handed out for testing, the students were guided to specific items according to the answer sheets developed by the district. These specified items tested the basic reading skills previously identified by the district.

The Fiddler Reading Attitude Questionnaire (FRAT) is composed of 100 statements to which the students respond on a five point scale. The response categories are strongly agree, agree, not sure, disagree, and strongly disagree. There are 20 items which are reading attitude items. The remaining 80 items are merely distractors.

The students received an answer sheet which included the printed statements and appropriate response boxes. Each statement was also presented orally, to eliminate confusion and provide the respondents with an opportunity to discuss the ideas or vocabulary involved.

When scoring the FRAT, the distractors are ignored. The reading attitude items are scored with the following weightings: strongly disagree (1), disagree (2), not sure (3), agree (4), and strongly agree (5). However, it is essential to remember that four of the reading attitude items (numbers 19, 32, 42, and 62) are stated negatively, and the scoring is reversed. Once the raw score is computed, it is located on the the Table of Norms with corresponding stanines and labels describing pupils at each level of performance.

Subjects

The 52 third grade students involved in the study were members of two heterogeneously grouped classes. There were 22 girls and 30 boys. Their reading ability according to the Metropolitan Achievement Test (Form G), administered May, 1977, ranged from 1.7 to 6.9. The two homeroom teachers volunteered to participate in the criterion-referenced program introduced as a component of an objective based reading system developed within the district.

Procedure

All students completed the CRT pretest (Form B) and the first FRAT during the month of January, 1978. They received daily instruction in their respective basal reading series. Those children deficient in identified skill areas received instruction prescribed to their individual needs. In some cases, additional instruction was given through activities designed by the classroom teachers and members of the support staff (classroom aides, Title I aides, the reading intern and/or the Learning Center personnel).

After four months, the students completed the CRT posttest and the second FRAT.

Summary

The population involved in the study were 52 third grade students in a suburban school district. They completed the CRT pretest and the first FRAT in January, 1978. Four months later, the CRT posttest and the second FRAT were administered. The results of these instruments were analyzed to note any changes in the students' attitudes toward reading.

Chapter IV

Analysis of Data

The purpose of this study is to investigate the relationship between the performance of third grade students on a criterion-referenced test and their attitudes toward reading. This chapter will present the statistical analysis of their scores on the CRT instruments and the Fiddler Reading Attitude Questionnaires.

Statistical Analysis

The Pearson Product-Moment Correlation statistic was applied to the scores of the students on the CRT and FRAT instruments. The scores of each student were recorded with his or her performance on the CRT compared with that on the FRAT, in both the pretest and posttest situations. These data are presented in Table 1.

Table 1

Correlation Between CRT and FRAT Pretest
and Posttest Scores

Pretest*	r = .374	p < .01
Posttest*	r = .242	p < .05

* df = 51

The analysis of the pretest scores reflected a significant correlation between the students' performance on the CRT and their attitude toward reading. There were 39 students who scores above the 80% mastery level on the CRT which had been set by the district. These students also scored in the upper three stanines according to the FRAT norms. This correlation was presented as less than 1% due to chance.

The correlation between the students' performance on the CRT posttest and their scores on the second FRAT decreased to .242 (see Table 1). The correlation between the two instruments was not statistically significant. Although 43 students scored above the mastery level on the CRT posttest, their scores dropped according to the FRAT scales. Table 2 presents this information.

Table 2
Rating of the Students' Scores According
FRAT Norms

	Pretest	Posttest
Extremely favorable	4	7
Favorable	30	17
Average	17	25
Unfavorable	0	2
TOTAL	51	51

A t-test was applied to the results of the two FRAT tests. The t-test indicated no statistically significant difference in the attitude of the students after participating in the CRT project (see Table 3).

Table 3

Comparison of Students' Scores on the FRAT
Pretest and Posttest

	<u>Mean</u>	<u>SD</u>
Pretest	72.36	9.22
Posttest	69.90	11.78

$$\underline{t} \text{ (df = 51) } = 1.48$$

$$p > .05$$

Summary

At the time of the CRT pretest, there was a significant correlation between the students' reading ability and their attitude toward reading. An analysis of their performance on the CRT posttest and the second attitude questionnaire showed that the correlation between the students' reading ability and attitude toward reading was no longer significant. There was no significant change in the attitude of the students toward reading at the end of the CRT program.

Chapter V

Conclusions and Implications

Criterion-referenced tests are receiving a great deal of attention in the field of education today. These instruments are often selected because of their adaptability to a schools' program when information is required about the merits of curriculum objectives and/or procedures. Criterion-referenced tests are also used to determine an individual's status or level of performance along the continuum of achievement. The results of a CRT provide precise information which pinpoints skill deficiencies for individual students and thus enables the teacher to focus on specific areas of weaknesses and need. This method of diagnostic-prescriptive instruction is viewed as a desirable approach to teaching.

The influence of the affective domain on achievement is also an issue of increasing prominence in today's education. Although there is little research available on the relationship between attitude towards reading and achievement in reading, the literature reveals an increase of concern in this area, for "there is little disagreement relative to the importance of positive attitudes in assuring maximal success with reading" (Alexander and Filler, 1976, p. 1).

This chapter will present conclusions derived from a statistical analysis of the data. In addition, there are implications for classroom use of the instruments and suggestions for future research.

Conclusions

The correlation of the results of the pretests showed a significant relationship between positive attitudes toward reading and successful performances on the CRT. The students who received high scores on the CRT also had positive attitudes toward reading according to the FRAT. This supports the finding of Askov and Fishbach (1973) linking attitude toward reading and reading achievement.

The analysis of the posttest results on the attitude questionnaire and the CRT failed to show a significant correlation between attitude and achievement. This may have been due to the narrower range of posttest scores. In many cases the scores on the CRT pretest were so high that there was little margin for a noticeable gain in achievement. However, the classroom teachers informed the researcher that the students with severe skill weaknesses who had been identified from the CRT pretest had made substantial gains on the posttest.

Perhaps the students were not as critical in their responses to the FRAT posttest because of the repetition of the questionnaire after only four months. Students may be careless in completing a task they feel is familiar or a duplicate of an earlier activity. There was no significant difference in the attitudes of the students after participating in the criterion-referenced project. In some

instances, the posttest scores were lower than the pretest scores on the FRAT norm scale. Again, an indifferent attitude toward the FRAT posttest may have had some bearing on this decrease.

The students were asked to sign their names to the questionnaire before completing the posttest. Perhaps this change in the administration of the instrument resulted in a different method of responding. This could have been viewed as a possible threat, because the teachers would now be able to see how each student responded. The reading items are well camouflaged on the FRAT and the students would not be able to discern where to inflate their answers merely to please their teachers.

The non-significant trend toward a negative attitude about reading may reflect a change in attitude resulting from the approach to reading instruction which was implemented during the four months between the pretest and posttest. Study over a longer period of time would be necessary before specific conclusions could be drawn.

Implications for Classroom Practice

Classroom teachers and reading specialists can use the criterion-referenced tests at any point of instruction. In discussion with the researcher, the classroom teachers who participated in the study emphasized the usefulness of the criterion-referenced tests in identifying children with weaknesses in specific areas. This enabled them to prescribe instructional activities co-operatively with support staff members, according to the needs of the individual students. The students who received this individualized assistance reportedly made substantial growth in these skill areas on the CRT

posttest. Criterion-referenced tests can be administered periodically during a unit to see if children are maintaining the skills previously mastered. The tests would clearly identify those points which should be reinforced or perhaps retaught. At the end of a unit, the criterion-referenced tests could be used to evaluate the achievement of the students and/or the merits of the program itself.

Criterion-referenced measures can be developed by teachers to fit their specific programs. The teachers would establish a level of mastery comparable to the capabilities of the students. Criterion-referenced tests can be designed to assess the degree to which an individual has attained specified curriculum objectives. Criterion levels can be established at any point in instruction where it is necessary to obtain information about the adequacy of an individual's performance. Gronlund (1973) provides a guide for using criterion-referenced tests to improve traditional, informal tests prepared by teachers for classroom use.

Alexander and Filler (1976) provide an excellent source of formal and informal attitude assessment techniques. Interviews, questionnaires, and incomplete sentences are suggested for quick objective assessment. When more time is available, systematic observation over a period of time is deemed more accurate. Pairing, summated rating scales, and the semantic differential are described as more complex techniques. The variety of techniques available allows the classroom teacher or reading specialist to try different approaches until he or she finds the one most suitable for the children and their particular needs.

Implications for Future Research

The criterion-referenced instruments will be continued in the Spencerport district with fourth and sixth grade students. The fourth grade classes include those third grade students who participated in this study. This provides an opportunity to evaluate the effects of the instruments in several situations. The students who were participants in the criterion-referenced project as third graders could be monitored to see how they perform on the higher level tests. The scores of these participants could also be compared with the other fourth graders who are being exposed to the CRT for the first time to see if there is a significant difference in their performance. The sixth grade students could be studied to analyze their achievement on the more complex skills at their level.

A comparison of pretest and posttest attitudes toward reading revealed a non-significant trend toward a negative attitude. This study might be replicated over a full school year to determine whether extended time would lead to a significant attitude change or whether the trend was truly non-significant.

Several assessments of attitudes could be used throughout the year to note any changes in the attitudes of the pupils toward reading. If a different type of assessment tool had been used as the posttest in this study, the results may have been different. If the Fiddler Reading Attitude Questionnaire is used for both a pretest and a posttest, it could be divided into two equal parts. There are the same number of reading items in each section, and

the statements would not have to be rearranged. Would the students respond more favorably to this shorter instrument with different items on each part? This would eliminate the repetition of the full questionnaire by providing two distinct forms.

As more studies are presented in the areas of criterion-referenced instruments and attitudes, the information could be reviewed to identify new directions for investigations. The areas of criterion-referenced testing and attitudes toward reading represent a large potential for future research and classroom practice.

References

References

- Alexander, J. E., & Filler, R. C. Attitudes and reading. Monograph in the International Reading Association's Reading Aids Series. 1976.
- Allport, G. W. Attitudes. In C. Murchison, (Ed.), Handbook of Social Psychology. Worcester, Mass.: Clark University Press, 1935.
- Anastasi, A. Psychological testing. New York: MacMillan, 1976, pp. 96-714.
- Askov, E, & Fishbach, T. An investigation of primary pupils' attitudes toward reading. Journal of Experimental Education, 1973, 41, pp. 1-7.
- Block, J. H. (Ed.). Mastery learning: theory and practice. New York: Holt, Rinehart and Winston, 1971.
- Block, J. H., & Anderson, W. Mastery learning in classroom instruction. New York: MacMillan, 1975.
- Bloom, B. S. Learning for mastery. Evaluation Comment I, No. 2. University of California at Los Angeles, 1968, 1(2).
- Bloom, B. S. Affective consequences of school achievement. In J. H. Block (Ed.), Mastery learning. New York: Holt, Rinehart and Winston, 1971, pp. 13-28.
- Boehm, A. E. Criterion-referenced assessment for the teacher. Teacher's College Record, September 1973, 75 (1), 117-126.
- Brodie, T. A. Attitude toward school and academic achievement. Personnel and Guidance Journal, 1964, 43, 375-378.
- Bruner, J. Toward a theory of instruction. Cambridge, Mass.: Harvard University Press, 1966.
- Carroll, J. A model of school learning. Teacher's College Record, 1963, 64, 723-733.
- Carver, C. Motivation versus cognitive methods in remedial reading. April, 1971. (ERIC Document Reproduction Service No. ED 050 921)
- Cleworth, M. Evaluation of reading. Chicago: University of Chicago Press, 1958.

- Cronbach, L. Test validation. In R. L. Thorndike (Ed.), Educational measurement, 2nd ed. Washington: American Council on Education, 1971.
- Ebel, R. L. Criterion-referenced measurements: limitations. School Review, February 1971, 79(2), 282-288.
- Flanagan, J. C. Units, scores, and norms. In E. T. Lindquist (Ed.), Educational measurement. Washington: American Council on Education, 1951, 695-763.
- Flanders, N. A., Morrison, B. M., & Brodie, E. L. Changes in pupil attitudes during the school year. Journal of Educational Psychology, 1968.
- Glaser, R. Instructional technology and the measurement of learning outcomes: some questions. American Psychologist, 1953, 18, 519-521.
- Glaser, R., & Nitko, A. Measurement in learning instruction. In R. L. Thorndike (Ed.), Educational measurement, 2nd ed.) . Washington: American Council on Education, 1971, 653.
- Greenwald, A. G., Brock, T. C., & Ostrom, T. M. (Eds.), Psychological foundations of attitudes. New York: Academic Press, 1968.
- Groff, P. Children's attitudes toward reading and their critical-type materials. Journal of Educational Research. April 1962, 55, 313-314.
- Gronlund, N. Preparing criterion-referenced tests for classroom instruction. New York: MacMillan, 1973.
- Gronlund, N. Determining accountability for classroom instruction. New York: MacMillan, 1974.
- Gurney, D. The effect of an individualized reading program on reading. Reading Teacher, January 1966, 19, 277-280.
- Guttman, L. A. A Basis for scaling qualitative ideas. American Sociological Review, 1944, 9, 277-280.
- Hansen, H. S. The impact of the home literacy environment on reading attitude. Elementary English, January 1969, 46, 17-24.
- Harris, H. L., & Stewart, D. M. Application of classical strategies to criterion-referenced test construction. A paper presented at at the annual meeting of the American Educational Research Association, New York, 1971. Cited in Alexander and Filler.

- Healy, A. Changing children's attitudes toward reading. Elementary English, March 1963, 40, 255-257, 259.
- Healy, A. Effects of changing children's attitudes toward reading. Elementary English, November 1965, 42, 269-272.
- Hively, W. Domain-referenced achievement testing. A paper presented at the annual meeting of the American Educational Research Association. Minneapolis, 1970, 2-6. Cited in Alexander and Filler.
- Jackson, P. W. Life in classrooms. New York: Holt, Rinehart and Winston, 1968.
- Krathwohl, D. R., Bloom, B. S., & Masia, B. B. Taxonomy of educational objectives. Handbook II. Affective domain. New York: McKay, 1964.
- Levenson, S. The attitudes and feelings of selected sixth grade children toward reading in ability groups. Unpublished doctoral dissertation, United States International University, 1972. Cited in Alexander and Filler.
- Litcher, J. Changing attitudes: a review of the research. A paper presented at the Annual Convention, International Reading Association, New York, May, 1975
- McGuire, W. J. Cognitive consistency and attitude change. Journal of Abnormal and Social Psychology, 1960, 60.
- Miles, D. T., & Robinson, R. E. Behavioral objectives: an even closer look. Educational Technology, 11, (1971), 39-44.
- Otto, W. In W. H. MacGinnitie (Ed.). Assessment Problems in Reading. International Reading Association. Newark, Delaware: 1973, Chapter 2. (ERIC Document Reproduction Service No. ED 082 138)
- Popham, J. W., & Husek, T. R. Implications of criterion-referenced measurements. Journal of Educational Measurement, Spring, 1969, 6(1), 1-9.
- Ransbury, M. An assessment of reading attitudes. Journal of Reading, October 1973, 17, 25-28.
- Ransom, G. A. Criterion-referenced tests--let the buyer beware! The Reading Teacher, December 1972, 26(3), 282-285.
- Rowell, C. G. An attitude scale for reading. Reading Teacher, February 1972, pp. 442-447.
- Sarason, I. G. Personality: an objective approach. New York: Wiley & Son, Inc., 1972.

- Squire, J. What does research in reading reveal about attitudes toward reading? English Journal, April 1969, 58, 523-533.
- Strickler, D. J., & Eller, W. Reading: attitudes and interests. In R. Arnold & P. Lamb (Eds.), Reading: instructional strategies. Belmont, California: Wadsworth, 1975.
- Strickler, D. J., & Smith, C. B. The affective dimension of reading: developing reading interests, attitudes and value through literature. In A Guide to reading effectiveness. Indianapolis, Indiana: The Department of Public Instruction, 1975.
- Ten Brink, T. D. Evaluation--a practical guide for teachers. New York: McGraw Hill, 1974.
- Tinker, M. A., & McCullough, C. M. Teaching elementary reading, Fourth edition. New York: Appleton-Century-Crofts, 1975, 367.
- Tucker, L. Scales minimizing the importance of reference groups. Proceedings of the Invitational Conference on Testing Problems. Princeton, New Jersey: Educational Testing Service, 1952, pp. 22-28.
- Wilson, H. A. A judgemental approach to criterion-referenced testing.

Appendix A

Fiddler Reading Attitude Questionnaire

Appendix A

Fiddler Reading Attitude Questionnaire

	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
1. Kids don't like strict parents.					
2. Clean-up projects to help the environment interest you.					
3. It's embarrassing to be scolded by a grown-up in front of your friends.					
4. You usually enjoy getting new books and stories to read.					
5. It's scary to think about growing up.					
6. You'd like to be able to pick out and buy all of your own clothes.					
7. You think that most teachers are really nice people.					
8. You often listen carefully when others are talking about what they've read.					
9. Most _____ graders don't believe in Santa Claus.					
10. Being on a plane in rough weather would be exciting.					

Fiddler Reading Attitude Questionnaire (Continued)

11. When someone you're with bakes cookies, you like to eat the dough before it's baked.
12. Boys like to smoke because they think they're "big stuff" when they do.
13. When you do a good job of reading something, you usually feel good.
14. You sometimes wish that you were a little kid again.
15. It seems to take you a long time to learn some things.
16. You spend a lot of your spare time reading.
17. Kids don't like smaller kids hanging around them.
18. You are friends with almost everyone in your class.
19. When you're having trouble understanding something when you're reading, you just skip over it.
20. You like to write with a pen better than with a pencil.
21. You wish you were rich.
22. You like to read.
23. You've felt like running away from home before.

Fiddler Reading Attitude Questionnaire (Continued)

24. You hate teachers who make you feel like a little kid.
25. You would rather eat candy for dessert than cake.
26. You like pepperoni on pizza.
27. Girls seem to be always combing their hair.
28. Kids often pass notes around in class when they get the chance.
29. You can't wait for week-ends to come.
30. You like to watch educational programs on TV.
31. Grown-ups disgust you when they make you get your hair cut.
32. You only read books when you have to.
33. Football is the favorite sport of most boys.
34. When you're in a bad mood, you're mean to your friends.
35. You fake being sick sometimes.
36. You sometimes volunteer for extra reading assignments.
37. Grandparents are nice to their grandchildren.
38. You like to eat chocolate.
39. Your desks at school are usually too big.
40. When a class is boring you like to entertain yourself by daydreaming.

Fiddler Reading Attitude Questionnaire (Continued)

41. You get nervous when it's time to take a test.
42. You only use dictionaries and encyclopedias when you're made to.
43. Hamburgers and coke are your favorite foods.
44. You think that reading is worthwhile.
45. Your hardest subject is math.
46. Making popcorn without grown-ups around is fun.
47. You like eating potato chips better than mashed potatoes.
48. It makes you feel terrible when you get a low score on a test.
49. You get a kick out of hearing yourself on a tape recorder.
50. You spend a lot of time reading on your own.
51. If you were free to learn anything you wanted, you wouldn't mind school.
52. You like kids who can tell funny stories.
53. Sometimes you wish you could be hypnotized.
54. You think science class is fun.

Fiddler Reading Attitude Questionnaire (Continued)

55. It's hard for you to remember the names of new people you meet.
56. You wish that you could read more books.
57. You like to watch television almost every day.
58. You have a hobby that you enjoy.
59. It's best to have only a couple of friends at a time.
60. You like reading class in school.
61. Sometimes during history class you wish that you lived long ago.
62. You feel that you're expected to read too much.
63. You'd like to have gym class more often.
64. Going to the dentist is scary to you.
65. Most kids would rather have young teachers than older ones.
66. Living where you do makes you feel good.
67. Your dreams scare you.
68. You'd like to join a book club.
69. Chocolate milk is better tasting than white milk.
70. Your desk is usually neat.
71. The first day of school each year makes you happy.

Fiddler Reading Attitude Questionnaire (Continued)

72. Books help you learn about how you should act in life.
73. You try to get your homework done on time.
74. You would like to be thought of as being popular.
75. You pay close attention during reading class.
76. When you can do something really well, you're a show-off.
77. Cartoons make Saturday mornings special.
78. You don't like to go to bed until late at night.
79. You like to get new things to read because you never seem to have enough.
80. You enjoy writing names and stuff on the backs of tablets.
81. Working on Saturdays is terrible.
82. You would probably study on your own even if teachers didn't give homework.
83. School starts too early in the morning.
84. Art class is one of your favorite classes.
85. You would rather take pills when you're sick than have a shot.

Fiddler Reading Attitude Questionnaire (Continued)

86. If you had your way, kids wouldn't have to go to school.
87. You hate the thought of your relatives kissing you.
88. When you have the spare time, you would rather read than do most other things.
89. Chocolate candy is better than any other kind.
90. You'd rather buy your clothes in a small store than in a big department store.
91. Sometimes you get in quiet moods when you don't want to talk to anybody.
92. You often worry about how you look.
93. Guitar playing is popular with kids your age.
94. You like to go back to school after summer vacation.
95. Reading during your spare time is fun for you.
96. Girls seem smarter than boys.
97. Kids don't know what grown-ups expect of them most of the time.
98. Math next year is going to be hard for you.

Fiddler Reading Attitude Questionnaire (Continued)

99. Most kids think that English class is useless.
100. You are ashamed when you don't finish your homework.

Appendix B

Fiddler Reading Attitude Questionnaire

Norms Table

Appendix B

Fiddler Reading Attitude Questionnaire

Norms Table

Raw Scores	Stanines	Descriptive Labels
100-85	9	Extremely Favorable
84-78	8	Favorable
77-71	7	
70-64	6	Average
63-57	5	
56-50	4	
49-43	3	Unfavorable
42-36	2	
35-20	1	Extremely Unfavorable