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A STATE-WIDE SURVEY OF TEACHER USE OF NARRATIVE TEST REPORT
FORMS FOR INSTRUCTIONAL DECISION-MAKING

The University of North Carolina at Greensboro

Ed.D. 1985

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A STATE-WIDE SURVEY OF TEACHER USE OF NARRATIVE TEST
REPORT FORMS FOR INSTRUCTIONAL DECISION-MAKING

by

Helen Suarez DeCasper

A Dissertation Submitted to
the Faculty of the Graduate School at
The University of North Carolina at Greensboro
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of the Requirements for the Degree
Doctor of Education

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Approved by



Dissertation Adviser

APPROVAL PAGE

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DECASPER, HELEN SUAREZ, ED.D. A State-Wide Survey of Teacher Use of Narrative Test Report Forms for Instructional Decision-Making. (1985) Directed by Dr. Carol Kehr Tittle. 170 pp.

A state-wide survey was conducted in Georgia to determine teacher use of narrative test reports. The teachers surveyed were 572 ninth-grade teachers of reading, language arts, or mathematics. The test reports studied were those prepared for use with Georgia's eighth-grade criterion-referenced tests.

The context for the study is the literature about teacher use of test data, the narrative test report literature, and studies about teacher decision-making.

The results indicate that teachers are generally supportive of the narrative test report format. However, such factors as availability of test report forms, school organization, and large numbers of students taught mitigate against test use.

It was suggested that test publishers and administrators in state education agencies and school districts consider intrapersonal factors of teachers and environmental factors in teachers' work settings that may affect test use. An understanding of these factors may improve the linking of testing to instruction.

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CHAPTER I

INTRODUCTION

In the ongoing effort to improve schools, testing continues to play an important role. For years norm-referenced or criterion-referenced tests have been mandated by local education agencies (LEAs) and state education agencies (SEAs) for accountability use in the decisions made early in the school year for grouping and placing students. Greater use of these tests at the classroom and building level has been viewed as a key to instructional improvement. Thus much of the current work being conducted to improve the utility of tests for school improvement is classroom focused (Datta, 1982).

This study deals with one aspect of testing in the schools, namely, the use teachers make of test reports. Teachers are the focus of this study because they are the primary link between the student and the school testing system, and their role is critical to improving instruction. The teacher tends often to be the administrator of standardized tests as well as the interpreter of standardized tests to students and their parents. Teachers may use tests for their own instructional purposes such as planning, grouping, or decisions about remediation or acceleration. Finally, teachers are not disinterested users of standardized tests. They may feel that they are being indirectly evaluated by the outcomes of their students on the tests and thus may want to make efforts to improve the performance of their pupils on these tests.

Importance of the study

Standardized testing is wide-spread in elementary and secondary

education in the United States today. Achievement tests, criterion-referenced tests, and norm-referenced tests are used extensively to monitor student mastery of specified subject matter. Many states and local education agencies mandate annual testing programs for students in grades 1 through 8, with minimum competency testing required for graduation from high school. In general, the reasons stated for this abundance of testing are to measure pupil progress and to improve instruction (Datta, 1982).

During the 1960's and early 1970's most criterion-referenced testing was conducted in the elementary grades. By the late 70's, however, over 35 states had adopted minimum competency testing programs which required high school students to demonstrate some degree of mastery over specified "basic skills" in order to graduate from high school. High school teachers thus have the responsibility of assessing the abilities of their students in order to help prepare them to pass a test of state-mandated competencies. With the growing national emphasis on minimum competency testing, secondary teachers may now have need for the information elementary teachers have typically received in test reports.

The value of these reports of test information, however, may differ according to whether a teacher works in an elementary or secondary school. Most elementary teachers have 30 or fewer students in a classroom for most of the school day. Secondary teachers may teach five or six classes, with up to 150 students a day. The difference between the numbers of students taught per day makes it clear that the opportunity to study test results for each student and to individualize instruction, is far more feasible for the elementary teacher than for the secondary teacher. As a result, most studies of test use have been concerned with

how elementary teachers make of tests and test results, while citing evidence that most secondary teachers do not use test results for instructional decisions. (Rudman, Kelly, Wanous, Mehrens, Clark, & Porter, 1980).

The Context of the Study

Three main bodies of research are useful in establishing the context for this study. The test-use literature examines how teachers have used test information and linked it to instruction. The decision theory literature provides a framework for explaining how the format of a test report may influence the kind of instructional decisions a teacher makes. The narrative test report literature describes the reasons for developing narrative test reports and examines the short history of this technology.

Test use literature. The attempt to link teaching with testing has led researchers to study the way that teachers use tests for making instructional decisions. Researchers (Rudman et al., 1980; Linn, 1983) indicate that while teachers generally support testing they see test results mainly as a way of monitoring students and comparing them with students in other schools. Other studies (Salmon-Cox, 1982; Yeh, 1980) have found that while test information may be used by elementary teachers, very few high school teachers indicate that test reports are useful to them in making instructional decisions.

Some researchers attribute the slight use of test results to the fact that teachers have little training in the areas of educational research, measurement, and statistics (Goslin, 1967; Olejnik, 1979; Ward, 1980; Salmon-Cox, 1982). The need to provide assistance to teachers in interpreting test scores and in using them for making instructional decisions has long been recognized by the measurement discipline (Noll,

1955; Durost, 1959; Rosner, 1961; Farr & Griffin, 1973). Test publishers have also recognized the need to report test data in a form that is useable by teachers.

The decision theory literature provides a framework for looking at how the format of a test report may affect the instructional decision a teacher makes.

Decision-making research. Teachers have been modeled as professionals whose decisions, made in uncertain, complex environments, affect their teaching behavior (Shavelson & Stern, 1981). The nature of the instructional task indirectly affects the judgments and decisions teachers' make by influencing the information about students to which a teacher attends.

Researchers in the field of decision theory have learned that the processes of judgment and choice are often influenced by the context and content of the variables to be judged (Einhorn & Hogarth, 1981; Slovic, Fischhoff & Lichtenstein, 1977). Test publishers have varied the reporting systems for their tests by incorporating narrative test reports along with the graphs, percentiles, and tallies of traditional test report forms. Since different ways of organizing information could have implications for decision making, studies need to be conducted to investigate whether teacher use of test results may vary as the format of the report varies.

Narrative test reports. Narrative test reports are prepared for teachers, parents, students, and school administrators in a written format that is designed to be "meaningfully and responsibly reported" (Whitney, 1972, p. 1). The narrative test report literature, however, is not very helpful in exploring test use by teachers. The research

published thus far has been concerned largely with the technical problems of developing algorithms that represent the data generated by the tests. Research has not been published to indicate whether teachers, students, parents or administrators find narrative test report forms informative or useful.

The need for research regarding the use of test reports for instructional decision-making by secondary teachers prompted this study. Ideally, the study would examine an existing program rather than simulating one. The coordinator of the Georgia Student Assessment Office, Dr. Stan Bernknopf, was interested in examining the use of the Georgia test report system with ninth grade teachers throughout the state. His office provided resources that made it feasible for this study to be conducted there.

The Georgia Testing Program. An example of a large-scale test publisher who has added narrative test reporting to its test report options is the Georgia Criterion-Referenced Testing program. In fact the Georgia Student Assessment Program's report forms have "received national recognition as an innovative approach to providing information for student and curriculum evaluation" (Georgia Department of Education, 1982, p. 7). The Georgia Testing Program thus provides an example of state testing programs, one which has been professionally recognized, and one which was also interested in examining teacher use of test results.

The Georgia Department of Education administers the Student Assessment Program as established by the Georgia Board of Education Policy II (Georgia Department of Education, 1983). Policy II was adopted to implement state legislation passed in 1974 that directed the Board to assess the effectiveness of state education programs. In response, the

Criterion-Referenced Tests (CRT) in reading, mathematics, and career development were constructed. These tests were designed to measure a core group of basic skills that were identified by Georgia educators as essential to academic progress. Testing of pupils in grades four and eight was begun in Spring, 1976; tests for the first grade were first administered in the 1983-84 school year; and in school year 1982-83 the High School Basic Skills Tests were first administered to tenth graders. The Basic Skills Tests (BST) measure student competencies in reading and mathematics, including problem solving, and are among requirements for graduation from Georgia public high schools.

The Georgia Board of Education also expressed the following concerning the reporting of the results of tests to teachers and administrators:

The program should provide the teachers and administrators in every school basic information for assessing the effectiveness of the principal phases of instruction, both for individual students and for groups of students.

As a result the Department of Education has developed a series of test reports for pupils, parents, teachers, administrators and the public. The reports are designed to disseminate individual student, school-wide, system-wide, and state-wide results of tests.

The purpose of this study is to determine how one audience, teachers, makes use of test report forms and other materials developed for them by the Georgia Department of Education. The report forms selected for study are those based on the results of the eighth grade testing program. This particular level was selected for several reasons. First, the report forms for this level are similar to those used for the

first and fourth grade tests, and so results about the format and distribution of the report forms may be generalizable to the elementary school setting. Second, the majority of eighth graders in Georgia go to a different school in the ninth grade. This may create problems in transmitting the test results from one setting to another. Third, the eighth grade test was revised in 1983 to facilitate its use in identifying students who need additional help in the basic skills to pass the Basic Skills Tests in the tenth grade. In this context, it seems particularly important to determine if and how ninth grade teachers use the information provided by the test reports.

Variables to be Investigated

Test report-form variables. This study will examine the test reports and other instructional materials prepared for teacher or school use by the Georgia Assessment Project for the Georgia Criterion-Referenced Tests.

Subject variables. The eighth grade report forms for reading and mathematics will be considered in this study.

Instructional decision variables. Shavelson and Stern (1981) have identified three instructional decision-making areas where teachers used test information : planning, grouping, and recommendations for remediation or acceleration. These three variables will be examined in the study.

Grade-level variables. The Georgia Criterion-Referenced Tests are administered in the spring to the first, fourth, eighth, and tenth grades. This study is concerned with the 8th grade administration and materials.

Teacher variables. Demographic information about teachers, such as

level of education, grades taught, years of experience, and training in tests and measurement will be surveyed.

Test report use variables. Teachers will be surveyed to determine which test reports are available to them, if they have received help in using them, and how useful they find them.

Research Questions Studied

The study will examine research questions about teacher use of information sources in making instructional decisions, specifically the use of the Georgia Eighth Grade Criterion-Referenced Test reports. The questions are the following:

1. How do ninth grade language arts/reading or remedial mathematics/mathematics teachers use the Eighth Grade CRT results for several instructional decisions they may make?

Teachers are continually making instructional decisions, and they can be informed by test results. It is useful in evaluating a reporting system to examine whether the use varies by the type of instructional decision that is made.

2. What sources of information are used in assigning students to classes, planning instruction at the beginning of the school year, grouping students within the class, and in deciding to provide remediation or acceleration for students?

Teachers have access to such sources of information as other teachers' reports, student grades, test results, and their own experience as a teacher to assist them in making instructional decisions. Which of these sources are used by the teachers surveyed?

3. Do the report forms that are designed for teacher use communicate information in a useful way?

The Individual Student Report forms and the Individual Student Label are designed specifically for the teacher. Do teachers find the information presented in these reports useful?

4. How useful is the information reported in the Alternative Individual Student Report Forms A, B, and C for the various instructional decisions teachers may make?

Examples of two Georgia report forms plus a form developed by the investigator are compared in this section. Decision theory literature would predict results indicating that teachers would find some test report formats more useful in a given decision situation than other formats.

Other subsidiary questions are to be addressed: How accessible are the CRT forms to the ninth grade teacher? Do teachers need assistance in using test results? Who makes instructional decisions in the school and school system? Some variables identified in earlier research are also looked at in this study. These variables, highest degree held, number of hours of educational research or measurement, and subject taught, will be examined in conjunction with responses to the primary research questions.

Summary

This study will examine how teachers use test results as reported in narrative test report forms for making several instructional decisions. The context for this study is the research on test use, narrative test reports, and teacher decision-making. A review of the literature shows a need to study how teachers link test results to the instructional decisions they make. Since the minimum competency testing movement has brought criterion-referenced testing to the high schools, it is important to examine the response of secondary school teachers to the information

presented in the report forms. Finally, the study will examine how the format of a test report may influence the decisions a teacher makes.

The survey will be sent to ninth grade Georgia teachers of language arts, reading, mathematics or remedial mathematics. The test forms to be studied are those prepared by the Georgia Department of Education for use with the eighth grade Criterion-Referenced Tests. Teachers will be asked to provide demographic information and to respond to questions about the availability and usefulness of the test reports, and their importance in helping teachers make instructional decisions.

Georgia is representative of other states with state-wide testing programs. It has at least one very large urban city school system, several large urban and suburban school systems, as well as smaller suburban and rural districts. The results of this study should be useful in generalizing to other states with similar testing programs.

CHAPTER II
REVIEW OF THE LITERATURE

The review of the relevant literature will examine the extent of testing in the schools, the research related to teacher use of test information and teacher decisions making, a discussion of the development of narrative test reports, and the contribution of decision theory to understanding how the format of a test report form may affect the instructional decision a teacher makes.

Testing in the Schools

Resnick's (1982) historical review of testing in the United States described the rapid growth of the test industry and the dramatic increase in test use in the last 20 years.

Houts (1975) estimated that the average student in the United States receives six to twelve full batteries of tests between kindergarten and twelfth grade, which does not include locally developed diagnostic and achievement tests, teacher-made classroom tests, the National Assessment of Educational Progress battery, or state-mandated competency tests.

Local testing. Local school districts often administer tests besides those mandated by state or federal programs. Examples of such tests are psychomotor tests administered to young children, and aptitude tests used for placement in special classrooms. Often local school districts use criterion-referenced testing for grades not being tested by state programs (Anderson, 1982). Lyon and others (1978) reported that 90 percent of all local education agencies administer norm-referenced tests. They also reported on a survey that found that 75 percent of the

evaluation directors in local districts reported that monitoring student achievement testing was their major responsibility.

State Testing. Since the late 1970's state legislatures have been deeply involved in mandating test programs. For example, 35 states mandate minimum competency testing programs, and 30 states operate some kind of state-wide achievement testing program (Gorth & Perkins, 1979). Ninety-five percent of states also require norm-referenced testing in at least one grade throughout the state.

Federally Mandated Testing. Anderson (1982) reported that as many as 75 percent to 95 percent of all students in special programs such as bilingual and Title I are tested annually for evaluation purposes, often at the beginning and the end of the year. The National Assessment of Educational Progress is administered annually to about 29,000 nine-year-olds; 41,000 thirteen-year-olds; and 36,000 seventeen-year-olds. In addition, it appears that testing time is even greater for students in compensatory education programs. Anderson (1982) reported that students in regular programs may experience up to six hours annually in locally, state, or federally mandated tests. Students in special education programs may experience two or three times as much testing as students enrolled in the regular school curriculum, or up to three days a year of achievement testing.

Taken together, achievement-related tests mandated by local, state, and federal levels require extensive involvement of student and teacher time. Rudman et al. (1980) found that teachers commonly challenge the amount of time testing requires in the school year, while at the same time they do not object to the time required to plan instruction. This unwillingness to identify the "symbiotic relationship" between testing

and instruction appears to lead to teacher skepticism about the value of the time spent in testing (p.3).

Test Use by Teachers

A comprehensive survey of research about teacher use of test results is a part of an exhaustive study of 60 years of research linking assessment and instruction by Rudman et al. (1980). Their search of the literature and the synthesis of their findings provides the following information related to the present study: 1) Teachers report that they understand test scores which they receive from standardized tests, but when given interpretation items on a test, they often misinterpret the measurement concept presented. 2) Teachers appear to be more supportive of testing than commonly thought. 3) Teachers with more experience and who have had measurement training show more support for the use of tests than do those teachers who are less knowledgeable and have less experience (Yeh, 1978). Each of these points will be discussed in more detail below.

Early Studies. The classic study of teachers and test use conducted by Goslin in 1967 was an extension of earlier research about standardized testing and its impact on the schools (Brim, Goslin, Glass, & Goldberg, 1964; Goslin, 1963; 1965; Goslin, Epstein & Hallock, 1965). In the 1967 study he gathered data from nearly 1800 secondary school teachers concerning three specific uses of normative test results: in grading pupils, in advising them about their work in the teacher's course, and in providing them and their parents with information about their abilities. Most of these data were collected in a self-report questionnaire which asked questions about the teacher's use of test information, and their opinions about standardized tests. In response to these questions,

teachers in general reported a rather low degree of test score use. Those teachers who did make the most use of test information were those who had more training in testing and measurement techniques, had more experience in giving and scoring tests, and who evidenced greater familiarity with tests.

Additionally, questionnaires were given to principals and guidance counselors of the schools from which the teachers were sampled. They were asked to comment on the amount of testing the school, district and state required, as well as their attitudes toward the use of test information. Goslin found that teachers reported more test use in those schools where test use was emphasized. These data imply that a factor in the extent to which teachers rely on standardized test scores is the general school policy regarding test usefulness for various purposes.

In addition to the self-report data that was gathered from the questionnaires, Goslin incorporated a card sort test as a component of the teacher questionnaire. This task was designed to provide a more objective estimate of how teachers actually use test score information in making instructional decisions than was provided in the self-report portion of the questionnaire. He asked the sample of secondary teachers to examine a set of 28 pupil record cards and decide whether each pupil should be permitted to enroll in a special advanced science class. Each pupil record form contained spaces for information about the pupil's age, sex, personality and interest inventory scores; intelligence, achievement, and aptitude test scores; recommendations of former teachers; and the opinion of the school counselor. For some of the pupils, information on one or more of the above records was missing. The teachers were asked to arrive at a decision about the placement of the

pupil based on the available information.

In 14 of the 28 cases there was enough agreement among the various kinds of information to make a straightforward classification. On the remaining 14 records, missing or conflicting information created a situation where the teacher had to rely on objective (test score) information, or subjective (teacher or counselor comments) information. Scores for these 14 test cards were determined according to whether the teacher gave greater weight to the subjective or objective information. Low scores indicated a reliance on subjective information, high scores indicated reliance on objective information.

Goslin compared the results of the card sort exercise with those of the teachers' reports of test use and opinions about tests. He found only one item on the self reports that related significantly to the card sort test, the question concerned with whether the teacher had made use of IQ test scores in advising students about work in their course. He found a significant relationship between teachers who discussed IQ test scores with students and those teachers who scored high on the card sort test. The lack of relationship between what teachers reported they did with test information and what they actually did with it on the card sort exercise led Goslin to the conclusion that the card sort test was more reliable since it required the teachers to approximate a situation in which they have to make an instructional decision about a student.

In comparing the results of the card sort exercise with the background characteristics of the teachers, Goslin found that age, sex, type of college attended, major field, and amount of experience teaching do not appear to be strongly related to either a high reliance on subjective information or objective information. However, teachers with advanced

training and degrees tended to have somewhat higher scores, indicating more reliance on test scores, but the relationship was not particularly strong.

Goslin concluded that since there were strong correlations between the teachers' self reporting of test use and opinions about standardized tests, and that they showed little correlation with the data gathered in the card sort, then one might suspect that opinions and self-report data may be subject to a halo effect. Additionally, the card sort may be measuring a "deeper level of teacher reliance on test scores than the other items" (p. 105).

Kennedy, Appling and Neuman (1980) in a study of 18 school districts that used test data and evaluation in exemplary ways, found that teachers' professional judgments "played a more significant role in instruction than tests did" (p. 87). Teachers seemed to "prefer using more than one criterion and more than one person to make the decision" when placing children in special classes or grouping them. "They were uneasy about the consequences to the child of making a mistake and they sensed the fallibility of the various assessment devices at their disposal" (p. 93). Teachers used the knowledge they acquired through observation for most instructional decisions, turning to test information only when their observational information was scanty, e.g., at the beginning of the year, or when teachers had to group children they did not know very well.

Kirkland (1971), reviewing the effects of testing on students and schools, reported that tests have little influence on what is taught in schools or how it is taught, except in the case of tests used for college admissions. It appears that teachers are more influenced by what infor-

mation they are given about the pupils' characteristics and behavior.

Teachers' use of test results has also been examined in the teacher expectancy literature. In an experiment involving 990 second grade children, Beggs, Mayer, and Lewis (1972) investigated the effect of different IQ test report methods on pupil IQ and achievement. Their results showed that communicating accurate intelligence test results to the teacher did not have any meaningful effect on the subsequent achievement and IQ scores of the student. The research of Fleming and Anttonen (1971) found that there were not significant differences in IQ and achievement between students whose teachers had no test information and those students in the test information treatment conditions.

In a later study, Sorotzkin, Fleming and Anttonen (1974) studied the effect of teacher knowledge of standardized test information and pupil IQ and achievement. Teachers in the study were given an abridged version of the Goslin (1967) questionnaire which was designed to determine whether the teachers held either high or low opinion of tests. Teachers were then given either achievement test information, IQ test information, or no information about their second grade students. They reported that the kind of test information given had no significant effect on the IQ or achievement of the students. Significant findings were reported for second grade students whose teachers had high opinions of tests in the areas of vocabulary achievement and mathematics. The authors suggested that teachers with high opinions of tests communicate heightened test performance expectations and also structure their classes in such a manner as to "teach to the test" (p. 84).

Leiter (1976) explored the use teachers make of background knowledge of students to help in the interpretation of test scores. The

author, using the case study approach, conducted interviews with kindergarten teachers about the scores that each of their students received on the Murphy-Durell test to determine whether to pass a student on to the first grade. He found that although the teachers did not directly use the test scores of the students to determine whether to pass or retain the student, they used the test score as background knowledge in order to interpret it. Background information included such data as ethnographic details of the student's home life, classroom behavior, behavior in the testing session, assumptions about the school program and its social organization. Leiter asserted that teachers use this information to determine whether a test score is valid or not. By valid he meant whether the score reflects the knowledge of the student or was produced by luck. By placing the scores in the context of the background knowledge, the potentially equivocal test scores are provided with factual properties that strengthen the objectivity of the test.

It seems, therefore, that under certain circumstances teachers are willing to use test information and do not have the antipathy towards testing that the National Education Association reports (McKenna, 1977). Rather, most studies (Yeh, 1978; Stetz & Beck, 1978; 1979) report that teachers are supportive of testing to some degree. Teachers' attitudes are a reflection of their knowledge and experience with testing and measurement. Those who have more experience administering tests and with more measurement training are more likely to be stronger supporters of tests than those with less experience and training (Yeh, 1978). In the same study, Yeh found that the staffs of schools whose students did poorly on educational measures were least likely to use test results, while those where pupil results were high were mostly likely to use the

results of tests. Denham & Lieberman's work (1980) tends to support this finding. They found that the constant monitoring of pupil growth and high academic standards were two factors which distinguished the most effective teachers and schools.

Later Studies. In 1978 the Center for the Study of Evaluation (CSE) began gathering nationwide information about the range of testing issues for students, teachers, administrators, and policy makers (Burry, 1981; Burry, Dorr-Bremme, Herman, Lehman & Yeh, 1981; Burry, Caterall, Choppin, Dorr-Bremme, 1982). This study, the Test Use in Schools Project, has been concerned with gathering descriptive data reflecting the entire testing picture -- the tests being administered, their users and consumers, the students affected by particular kinds of tests. In addition, the CSE has gathered inferential data about test use including the intended and actual uses of tests, and the kinds of decisions made on the basis of test information. As the Goslin study investigated the role of norm-referenced standardized tests, the CSE study emphasized the investigation of criterion-referenced, curriculum-related tests especially those given in the areas of language arts/reading and mathematics.

Phase 1 of the project collected and analyzed survey data from a national sample of teachers and principals. This part of the project focused on testing practices and the use of assessment results. Phase 2 of the project examined the cost of testing programs.

Major findings from the Test Use in Schools Project are found in several articles. Yeh (1978), reporting on a small-scale study that was preliminary to the nationwide study, found that the more knowledge the teacher or principal had about testing, the more favorable they were

toward test use. Yeh reported that only 50 percent of the teachers were able to correctly interpret percentiles and grade equivalent scores. Thus 50 percent did not understand common methods used in reporting test results or factors that must be kept in mind when interpreting these results.

Another factor that was found to influence teacher use of test results was the presence of classroom aides. Teachers with aides were more likely to use test results. Perhaps this is a function of the instructional alternatives available to teachers with assistance. For example, teachers with aides were found to be more likely to recommend tutoring for students who had done poorly on a test.

In 1980 Yeh published a reanalysis of the 1978 data. Additional results that were reported in this study indicate that teachers use test results most for making initial instructional placement of students. However, standardized tests were the least frequently used sources of information for ongoing assessment of student progress throughout the school year. Teachers report that the next most common use of results of mandated tests is for communication with parents or staff.

In 1980 on-site interviews were conducted with teachers, and the nationwide survey was conducted. Both the interviews and the survey confirmed the results of Yeh's earlier small-scale study and reanalysis. The Test Use in Schools Project found that teachers use mandated tests for planning at the beginning of the year, but for all other instructional decisions prefer relying on their their own experience or on tests that they develop (Dorr-Bremme, 1983).

The fact that tests are so widely administered and so little used in schools along with the belief that there is a need to "make instructional

decisions more rational and perhaps less intuitive" (Rudman et al., 1980, p. 4) have led to efforts to increase utilization and integration of tests in the instructional process.

Linn (1983), reporting on the links and distinctions between testing and instruction, found that standardized tests have rarely been used "to provide specific feedback or to flag critically important concepts or skills for students." (p. 180). Standardized tests have been used largely by school districts to monitor the achievement of their students, and to compare this performance with the nation at large. Additionally, federally mandated programs such as Title I or Chapter 1 use the results of standardized tests for program evaluation. In most cases, the tests are administered, scored, recorded and filed away and forgotten, unless the principal, superintendent, or some other administrator emphasizes the scores in program evaluation. Then the links between testing and instruction tend to become stronger.

Similarly, Brzezinski (cited in Rudman et al., 1980) reported on a survey conducted of test use in school districts throughout Michigan. The top five uses of tests were reported to be (1) reporting to boards of education throughout the year on progress being made...(63% of the districts sampled), (2) relating other data to assessment information (51%), (3) conducting a study to determine which objectives were being taught in each grade (47%), (4) appointing curriculum committees to study test data and to relate them to current teaching strategies (40%), (5) developing study committees to discuss the linkage between test results and curriculum.

Salmon-Cox (1981; 1983) conducted a series of studies in 46 school districts in western Pennsylvania. The studies were designed to assess

teachers' use of and attitudes towards test information, and where testing fits into their thinking about teaching, assessment, and their students. The studies involved surveying teachers, counselors, and administrators in the school districts, interviewing a sample of teachers and administrators, and observational studies conducted in selected schools. Survey results indicated that standardized achievement test information is available to teachers from elementary through high school, but that the actual testing is primarily conducted in the elementary grades, and use of test information is largely found in the elementary grades. As described earlier, much of the data reported on teachers' use of test information comes from elementary teachers.

In response to the question "how do you use the information provided to you from achievement tests?", elementary teachers strongly (45%) indicated they used it as supplementary to or confirmatory of other information they have about their students. Elementary teachers use the information as another piece of evidence to add to their observations of how their students are doing. High school teachers who use achievement test information indicate that they use it similarly for confirmation of observations (65%), but that they only seek out test data when a student has presented problems for one reason or another.

When the same teachers were asked "What are appropriate uses of standardized test information?", they reported as appropriate use that which they also reported as their actual use. When asked what they thought were inappropriate uses of test information, the responses were more scattered among the alternatives, and fewer teachers responded to the question. Salmon-Cox interpreted this to mean that teachers think that there are a variety of ways to use test information in making

decisions about instruction and few inappropriate ways. When probing questions were asked about these issues in the interviews that were conducted, teachers reported that the main inappropriate use of test information is to use this as the sole criterion for placing students in special programs. As an example of their feeling about this use of test information, several teachers cited a program regulation that assigned children to gifted classes solely on the basis of a single IQ test score.

The research also examined attitudes towards aptitude or IQ tests among elementary, middle and high schools teachers. Among elementary teachers they found that the greatest use of these tests was in placing students in special programs, either full or part time. This is not actual use by the teachers, but rather use of the tests by regulation or by other school personnel such as counselors or school psychologists. Elementary teachers also report using IQ test scores for background information when they have a question about the performance of a child. Only 5 of the 46 elementary teachers interviewed indicated that they would use IQ information in determining what level of performance to expect from a student.

Middle school and high school teachers report using IQ test information when a student is having a problem and the teacher is seeking to understand the student. These teachers also reported that they used IQ information in talking with students and parents about the placement of students in academic and nonacademic courses and in justifying the grades they give students.

Overall, the studies found that teachers use test information, along with their observations of student work, to assess student abilities and potentials. Elementary school teachers, especially, use test data more

than do middle or high school teachers. Elementary teachers use achievement test data more extensively than IQ data for instructional decisions.

A survey administered by the American Federation of Teachers sought to determine how teachers actually viewed testing and what they knew about it (Ward, 1980). They polled a representative sample of their members, and they found that almost a third (29%) had never had a formal course in tests and measurement. Another 29 percent had had one course and 42 percent had had two courses. Seventy percent indicated that they had not participated in any inservice courses in testing or measurement. That this lack of formal training is important to teachers is apparent from their responses to questions about the importance of testing. First, teachers indicated that they need to know how to judge the appropriateness of tests selected for use in their schools. Second, they felt it was important to know how to select tests for use in their programs. Third, they thought it was important to know how tests are developed. Fourth was their need to know how to interpret percentile scores in test results.

When asked to name ways standardized tests were used appropriately, the teachers indicated that they were important for diagnosing student needs, and in student placement and grouping. Teachers indicated that they used multiple indicators in grouping students, but that test information was an important factor in forming these decisions.

Teachers were asked to respond to over a dozen problems and to indicate, "Is this a problem for you or not?" They could also indicate other problem areas if they wanted to. Sixty-three percent indicated that they could make better use of test information if it were reported

in such a way as to provide descriptive information about the student. Fifty-two percent said similarly that the test reports do not give an adequate profile of the strengths and weaknesses of the student. Fifty-one percent said that the results are often reported too late to do anything about the problem.

Ward (1982) summarized the results of the survey to indicate that teachers support the use of standardized tests if they see them as a part of the instructional program. Teachers do not like tests whose purpose they do not understand, from which they receive no results, or whose results come too late in the school year to be used in instruction. The survey results indicate that teachers want information about their students. They would like to see tests improved by providing descriptive information that would be useful in diagnosing student needs. Teachers recognize that if tests were "eliminated, the decision-making process will only become more subjective, not less so" (p. 51).

Narrative Test Report Research

As test use has grown, so has the realization that gathering information about students is not sufficient. An equally important step in the process is to provide feedback to appropriate persons about the performance of the student. The teacher is faced with the challenge of understanding the abilities and interests of each student and for providing classroom activities that meet the needs of each student. Test publishers have taken pains to provide test manuals to assist teachers in understanding their students' test results, but earlier test forms reported student performance in terms that were difficult for many teachers to interpret. With the introduction and support of computer technology, test publishers had an alternative to the traditional test

report. They could produce test results in a verbal format that would communicate to teachers in a clear and understandable way (Whitney, 1972).

An early attempt to report test results in a verbal format was developed by Kelley in 1968. Kelley, a university economics professor developed a computer program he called TIPS which scored multiple choice tests and processed and summarized the results in three separate formats: one for the student, one for the tutor, and a third for the professor. The reports provided information about the test results of the student as well as suggested readings, exercises, and additional assignments for remedial or accelerated work.

The Preliminary Scholastic Aptitude Test (PSAT) is aimed primarily at providing information to the test takers about their verbal and mathematical reasoning ability. Since the results of the PSAT are reported to students and guidance counselors, it seemed like a reasonable vehicle for the Educational Testing Service (ETS) to use to explore the development of a verbal score report form (Helm & Harasymiw, 1968). An algorithm was developed that reduced all possible combinations of scores into 100 different letters. Each letter contained several paragraphs which reported the student's overall test results, the results of the verbal and mathematics sections of the test, and recommendations for whether to apply to college or not. This demonstration showed the feasibility of producing computer-generated verbal report forms for a large-scale standardized test. ETS continued further research into this field, but has not produced narrative report forms for any other testing programs besides the PSAT because of the technical limitations of computer printers (L. Epstein, personal communication, March 3, 1984).

The first large-scale achievement testing program to develop and implement a narrative form for test reports was the Iowa Testing Programs for its Iowa Tests of Basic Skills (ITBS) (Mathews, 1972a, 1972b; Balfour, 1972; Alnot, 1972). The algorithm for this report system was developed by Mathews (1972a) while he was director of research for the Madison, Wisconsin public schools. The goal of this test-reporting system was to provide, "in an understandable form, useful information about the test performance of pupils" (Narrative Test Reporting Project, 1974, p. 1). Test reports are prepared for pupils, parents, and teachers. The teacher reports help teachers interpret each student's results by listing the word or phrase that is used to describe a certain percentile rank band. (Hieronymus, Lindquist & Hoover, 1982). For example the phrase "very high" is used in sentences when the student has scored between the 85-99 percentiles. The algorithm developed in 1972 is still being used today (A. N. Hieronymus, personal communication, February 21, 1984), although no studies have been conducted to investigate whether or how the narrative format is useful to teachers.

CTB/McGraw-Hill, publishers of a variety of norm-referenced and criterion-referenced tests, provides test users the option of purchasing narrative test reports for the use of students, parents and teachers. The Comprehensive Tests of Basic Skills and the California Achievement Tests, for example, provide a narrative test report called the Student Interpretive Report which contains traditional score reporting, graphic presentations of student percentiles, and verbal interpretations of the scores.

The purpose of these report forms is "so that test results may be readily understood and used for instructional planning and support"

(CTB/McGraw-Hill, 1984). Research has not been conducted to determine whether these narrative test reports actually serve the purpose for which they are intended.

The Georgia Department of Education implemented criterion-referenced tests for testing students in grades one, four, six, eight and ten in reading, mathematics and career development in 1976 (Georgia Department of Education, 1982). Criterion-referenced tests are designed to assess the specific performance level of each student in relation to a set of well-defined objectives. The narrative report format is well suited to reporting test information to students, parents and teachers on a skill by skill basis. A narrative report form in reading and mathematics is prepared for every student tested. This form provides the teacher with information about whether the student achieved each objective, and if not, instructional areas that need remedial work. The Georgia testing program has not conducted research to determine whether teachers find the narrative test reports useful in improving instruction.

Narrative test report research is in its early stages. The research that has been conducted has been concerned largely with developing algorithms that permit words to describe the scaled scores, percentiles, and stanines of traditional test report forms.

The research needs to be broadened to investigate whether teachers find the narrative report forms useful in instructional decision making. Information needs to be gathered about whether teachers actually see the narrative reports, and if so, just how they use these forms. Is there additional information that could be added to them that would facilitate use? Do teachers need training to use and interpret these report forms? These questions need to be explored in order for test developers to know

whether their narrative test reports are as useful as they say they are.

Teacher Decision Making

Research into human decision making has a strong psychological basis, but much of the research has been interdisciplinary with applications in education, management, medicine, sociology, economics and politics (for reviews see Einhorn & Hogarth, 1981; Slovic, Fischhoff & Lichtenstein, 1977). What brings these disciplines together is the idea that the cognitive activities of judging, deciding, and choosing can be understood and also be improved. Hammond, McClelland & Mumpower (1980) have attempted to integrate the decision theories which have evolved in the various disciplines over the last few decades.

Researchers have been modeling teaching as a decision-making process (Hambleton, 1974; Shavelson, 1973, 1976; Shavelson & Borko, 1979; Shavelson, Cadwell & Izu, 1977; Shulman & Elstein, 1975), with teachers viewed as professionals who make decisions in uncertain, complex environments. Shavelson and Stern (1981) described the two conditions under which teachers make decisions as interactive and reflective. The interactive conditions are those where the teacher must decide immediately how to respond to a student or a situation. The reflective environment is one in which the teacher has time to make decisions about students, or instructional planning, but within a context that is complex and uncertain.

When Shulman and Elstein reviewed the decision literature in 1975 they found that few of the theoretical models and research methods used in other disciplines were used in research in education. They suggested that such methods would have direct application to research on admissions and selection, diagnosis and prescription, examining the ways teachers

use information, to issues of educational evaluation, and to the teaching of clinical skills to student teachers.

Task format influence on decision making

Einhorn and Hogarth (1981) called for more descriptive research in decision making to examine how judgment processes operate as they do. In particular they were interested in the research that has shown that judgment and choice are highly sensitive to seemingly minor changes in the tasks that are presented. Studies by Hershey and Shoemaker (1980) and Einhorn (1980) have demonstrated that although two situations are structurally identical, it is possible for the same person to prefer one choice over another. Einhorn explained such behavior in the following ways: (1) the person may not perceive the task as identical since the content can hide the structure; and (2) even if the two situations are seen as having identical structure, their differing content could make their meaning quite different.

The salience of information presented in a decision situation influences the judgment that is made (Nisbett & Ross, 1980). Therefore, the nature of the instructional task affects the judgment a teacher makes by influencing the information about the student to which the teacher attends. Test publishers who are attempting to provide more useful test reports to teachers may benefit from varying the type and structure of information presented to teachers and examining the resulting influence on instructional decisions.

Summary. Three areas of research are examined in light of the present study. The test-use literature indicates that elementary teachers are greater users of test results than high school teachers. Teachers tend to support the testing of students, but do not seem to see

the relationship between testing and instruction (Rudman et al., 1980). Large percentages of teachers do not have training in statistics or educational research, and report that they have difficulty interpreting test scores (Yeh, 1980; Goslin, 1967; Datta, 1982).

The narrative test report literature indicate that technological progress in data processing has enabled the construction of test reports with a narrative format. It is believed that teachers will find narrative test reports easier to understand, and therefore more likely to be used, but these questions have not been evaluated.

The decision theory literature is relevant to this area of study because it informs the discussion about how information is presented to individuals in a decision-making situation. Teachers are seen as decision makers who must make decisions in complex settings. Teachers receive information from students, parents, their own observations, test reports, counselor reports, and other teachers. How this information is presented may influence an instructional judgment that is made by the teacher.

This review of the literature demonstrates the need for more research in the areas of how testing can inform instruction especially at the secondary school level. Studies are needed which provide information concerning the decisions that teachers make about instruction and how these decisions may be improved by utilizing test information.

CHAPTER III

METHOD

This chapter will present the procedures used in the study. First is the description of how the sample composition and size was determined, and how the sample was drawn. Second is a description of the test report forms and other materials from the Georgia Eighth Grade CRT used in the study. Third is the description of the development of the survey instrument. The fourth procedure described is for the distribution and receipt of the surveys. The final section presents the procedures for data reduction, entry, and editing.

The Sample

The sample consists of ninth grade teachers of reading, language arts, remedial mathematics and mathematics. Ninth grade teachers were selected for the study since the eighth grade CRT is administered in March, and the report forms with the test results are returned to the schools in May. Eighth grade teachers would be able to use the test results to evaluate curriculum and instruction during the past year, and to prepare revisions for the following eighth grade class. There would not be sufficient time remaining in the school year for them to use the test results to provide remediation or review for students in their classes.

Consequently, ninth grade teachers would be those most likely to use the eighth grade CRT results to assess the abilities of these students in order to plan instruction suited to their needs. In addition, the eighth grade CRT results provide useful information to ninth grade teachers

concerning those students who may need additional instruction to prepare them for success on the Basic Skills Tests administered in the tenth grade.

The eighth grade CRT tests reading and mathematics. After consultation with the Georgia State mathematics and language arts curriculum coordinators, it was determined that ninth grade teachers of language arts and/or reading were the principal teachers of the content of the Reading CRT. Similarly, ninth grade mathematics and remedial mathematics teachers are the principal teachers of the content tested by the Mathematics CRT. It was decided therefore to survey remedial mathematics, mathematics, language arts and reading teachers to determine their use of test information in their respective fields.

It was assumed that any difference in test use may be greater between schools than within schools, and greater between school districts than within school districts since the emphasis placed on test use by administrators would be similar in the same school or school system. The sample was designed to sample widely throughout the school districts of the state, with small numbers of teachers selected from each school.

The sample selection procedure was designed to select teachers representative of the teacher population throughout the state. This was in order to be able to generalize to teachers in schools that varied on such variables as school organization, size, and metropolitan status. Two stage cluster sampling was selected to meet these goals. The initial stage used sampling with probabilities proportional to size (PPS), the second stage used random sampling (Jaeger, 1984). The sampling frame for the initial stage of sampling was provided by the Division of Standards and Assessment, Office of Planning and Development of the Georgia

Department of Education. It consisted of a list of all schools in Georgia with ninth grades, the districts in which they were located, and the numbers of pupils in the school.

Stage one, cluster sampling. Sampling with PPS provides for the numbering of the elements of the sampling frame so that schools with larger student and teacher populations would have a greater probability of being selected than schools with fewer students and teachers. The clusters to be selected in this stage were schools with ninth grades. Twelve schools with less than 25 students were removed from the sampling frame, leaving 353 schools with ninth grades. The schools in this initial sampling frame ranged in size from 50 pupils to 789 pupils. It was decided to select clusters so that a population mean or proportion could be estimated with an error limit of .5. With 353 schools included in the population, this resulted in a requirement of sampling 136 schools. Five additional schools were sampled in case some did not choose to cooperate in the study, bringing the total number of clusters in the first stage to 141.

The first step in two-stage cluster sampling with probability proportional to size was to compute the cumulative number of students in schools with ninth grades. There were 92,332 students in schools with ninth grades in Georgia. A 5-digit number was read from a random number table. The number will lie between 00,000 and 99,999. The selected random number is multiplied by .92332 (the number of elements in the population divided by 100,000). This gives a random number between 0 and 92,332. The school with the same number as drawn from the table was selected for inclusion in the study. The process was repeated until 141 schools were selected.

The 141 schools selected in the first stage represented 90 school districts selected from 174 school districts in the state. Each school district has an appointed district-wide test coordinator who has the responsibility of serving as a liaison between the district and the state student assessment program. The 90 test coordinators for the selected school districts were contacted by Dr. Stan Bernknopf, Coordinator of Student Assessment for the Georgia Department of Education, informed about the project and asked for their cooperation in providing names of ninth grade language arts, reading, remedial mathematics and mathematics teachers for each of the schools selected. Forms were provided for the test coordinators to use at this stage. (See Figure A-1, and Figure A-2, of Appendix A for the letter and form used during this stage of the sampling.) The test coordinators provided names of teachers for all 141 schools selected in the initial sample.

Stage two, random sampling. In the second stage of sampling two groups of teachers were formed. The first group consisted of teachers of language arts and reading and the second group was composed of teachers of remedial mathematics and mathematics. The teachers in the reading/language arts group were assigned consecutive numbers, as were the teachers in the remedial mathematics/mathematics group. There were 704 teachers of reading/language arts in one sampling frame, and 745 teachers of remedial mathematics/ mathematics in the other sampling frame. The sex of the teachers in the sampling frames was estimated by examining the names and classifying them as male and female. The breakdown by sex for the language arts/reading sampling frame was 492 female, 102 male and 110, sex not classifiable. The breakdown by sex for the remedial mathematics/mathematics sampling frame was 445 female, 201 male,

and 99, sex not classifiable.

Random sampling was then used to select the final teacher participants in the study.

Sample size. The data to be collected from the second stage of the sample would be used to make estimates from the data about the proportion or means of teachers making use of a particular report form, or making instructional decisions. It was desired that this estimation be done with a specified level of precision, that is, that the means or proportions be estimated with a low level of error. (The difference between the mean of a specific sample and the population mean, $\bar{y} - \bar{Y}$, is called the error of estimate). It was decided that the error of estimate for this study should be .5. The sample size needed to estimate a population proportion with a probability of .95 of making an error not larger than .5 would required a sample of 200 teachers for each subject group (mathematics/remedial mathematics and language arts/reading). Funds were provided by the Georgia Testing Program, an agency contracted by the Georgia State Board of Education, for sampling 400 teachers per subject.

In summary, two-stage cluster sampling was used with the first stage selecting as clusters schools proportional to the size of the school, and the second stage using random sampling of teachers. It was determined that at least 200 teachers per subject group would be needed to be able to make reliable estimates about the population of teachers to which it was wished to generalize. Since funds were available to sample 400 teachers per subject group, the final sampling frame therefore consisted of 400 ninth grade teachers of language arts/reading and 400 ninth grade teachers of remedial mathematics/mathematics selected from 141 schools in 90 school districts.

Test Reports Provided for the Eighth Grade CRT

The Georgia Department of Education has as one of its priorities the provision of information to pupils, parents, teachers, administrators, and the general public, on which to make an assessment of the achievement of its students. Teachers, in particular, are to be provided with information upon which to assess the "effectiveness of the principal phases of instruction, both for individual students and for groups of students" (Georgia Department of Education, 1983, p. 1). This section describes the forms used to convey information to teachers, for both individual students and groups of students, as well as other materials that have been prepared to explain the test reports or to describe the objectives that are tested by the CRTs. The report forms and other materials have been developed and are distributed to school systems by the Standards and Assessment Division, Office of Planning and Development, Georgia Department of Education.

Individual student report forms. There are two report forms for individual students that teachers may be expected to use, the Student Report Form and the Student Label. These forms are sent to each school to be included with the student's permanent record folder.

The Student Report Form is prepared for each student taking the eighth grade CRT. There are three Student Report Forms, one each in reading, mathematics, and career development. (This study did not examine the use of the Career Development Report.) Three copies of the Reading and Mathematics Report are provided for each student. One copy of each of these reports is to be given to the student and/or parent. The other copies are to be used by teachers or administrators.

The Reading and Mathematics Student Reports are identical in format.

(See Figure A-3, Appendix A for examples of all of the forms discussed). These reports contain the following information: Grade level and subject area tested; student's name as it appears on the answer sheet; school name, school code, date tested, and process number; total scale score for the test; objective number and statement of the objective; number of items needed to achieve objective; number of items student answered correctly, statement as to whether or not the student achieved the objective; statements indicating areas where student may need additional instruction. On the back of the forms are explanations of the objectives measured.

The Student Label is provided for every student tested. It is expected to become a part of the student's cumulative record folder. The Student Label reports the following information: grade level; student's name as it appears on the answer sheet; time of testing; subject tested; skill areas into which objectives are grouped; the total number of objectives achieved in the subject area; total scale scores for Reading and Mathematics. The Label also summarizes test data for each objective in all three tests (Reading, Mathematics, and Career Development): objective achieved (*); objective not achieved (-); not tested (blank); objective not attempted (N).

School reports. Three reports are provided to school systems reporting test results for all students in the school. The three school reports are the Summary of Student Reports, the Student Achievement Roster, and the Item Analysis Report. These forms are sent to school administrators, but may be available for teacher use.

The Summary of Student Reports is prepared in two copies for each school where testing is conducted. The copies of the report are sent to

the school system in which the school is located. This summary provides an alphabetical listing of the students in the school who did not achieve each Reading, Mathematics, and Career Development objective. The Summary of Student Reports provides the following information: name of school; date tested; grade level and subject; number and statement of objective; list of students who did not achieve the objective; list of students who did not attempt the objective.

The Student Achievement Roster is provided for each school where testing is conducted. Two copies of this form are prepared and sent to the school system. The Roster lists all students who took the test, and shows which objectives were achieved and the total scale score for Reading and for Mathematics for each student. A summary of achievement for all students is also included on this form. The Roster includes the following: name of school; date tested; grade level; names of students in the school; objective numbers; subjects tested; achievement status (- = objective not achieved, M = mathematics objective achieved, R = reading objective achieved, C = career development objective achieved, N = objective not attempted); total number of objectives achieved by students; number of students' names appearing on Roster for the school; total number of students achieving each objective; and students' total scale scores for Reading and Mathematics.

The Test Item Analysis Report is provided for each school where testing was conducted. Two Item Analysis Reports are sent to the school system. A separate report is prepared for Reading, Mathematics, and Career Development. The report contains the following information: name of school; time of testing; grade level; subject tested; skill area tested; objective number and statement of objective; item number, with

the number and percent of student selecting each response; and a code (*) indicating the correct response.

Other materials. Two other reports, the Teacher's Interpretive Guide for Student Reports and the Objective and Assessment Characteristics are designed for teachers' use (see Figure A-7, Appendix A). Although not test report forms, they provide information that may be useful to teachers for interpreting the test report forms and determining the objectives and assessment characteristics upon which the test items were developed.

The Teacher's Interpretive Guide for Student Reports for the Georgia CRT provides assistance to teachers "in interpreting and using test data for individual students." (Georgia Department of Education, 1983). This booklet describes and gives examples of each of the individual and group CRT report forms.

The Objectives and Assessment Characteristics is a booklet that lists the skill areas tested by both the Reading and Mathematics tests, and the test objectives that are included in that skill area. The assessment characteristics are a description of the content and kinds of test items that may be included in testing the specific skill areas and objectives. Finally, an example or examples of items that are representative of the skill area or objective are presented.

In summary, there are two report forms that are designed for teacher use that give test results for individual students. Three report forms, that may be used by teachers, report test results for all of the students in a school taking the test. Finally, there are two booklets prepared for teacher use that provide information about the test reports themselves and about the skill areas and objectives tested. These forms

and other materials have been developed and revised with consultation from teachers throughout the state. These revisions reflect the changes that have been made in the tests as well as in response to requests by test users as expressed through workshops conducted by state department staff.

Survey of Testing Practices for Teachers of Grade 9 Students

The primary source of data for this study is a survey developed by this investigator to provide answers to the research questions stated in the Introduction (see Figure A-4, Appendix A for the survey instrument). The development of the survey was an iterative one, which began by determining the research questions to be addressed by the study. Second, the surveys developed for use by Goslin and his colleagues (1967) and by the Center for the Study of Evaluation's Test Use Project (Choppin, 1981) were studied for ideas about content and format. Third, the items were written, shared with colleagues, revised, and shared again. Examples of the survey were sent to Dr. Stan Bernknopf, Coordinator of Student Assessment, Georgia Department of Education for his and his staff's comments and suggestions. Once the survey was nearing its final form, a pilot study was conducted.

The pilot study. The pilot study was conducted in late August, 1984 with 13 ninth grade teachers of reading/language arts, and 10 teachers of remedial mathematics/mathematics in two Atlanta, Georgia schools. These were schools that had not been selected to be in the main study. The teachers were sent an explanatory letter, a survey, and examples of the test report forms. They were asked to complete the survey and to comment about any areas of the survey and accompanying materials that needed clarification or improvement. The responses from the pilot study

led to a final revision of the survey instrument.

Research questions and survey instrument. The final survey instrument (see Figure A-6, Appendix A) addresses each of the research questions identified in the Introduction. This section will state each research question, and list the survey items that pertain to that questions.

1. How do ninth grade language arts/reading or remedial mathematics/mathematics teachers use the Eighth Grade CRT results for several instructional decisions they may make?

Questions 19 through 25 address this question. Teachers were asked to indicate how important each of the seven test report forms were in helping them make three instructional decisions: (1) Planning at the beginning of the school year, (2) Grouping or placement of students, (3) Remediation or acceleration of students. The three decision opportunities are those described by Shavelson and Stern (1981). Teachers were asked to rate each report form or test information material on five levels of importance, from Not important (1) to Crucial (5). Teachers were directed to skip the item if the report form was not available to them. Items skipped were coded number 6.

2. What sources of information are used in assigning students to classes, planning instruction in the beginning of the school year, grouping students within the class, and in deciding to provide remediation or acceleration for students?

Items 11 through 14 related to this question. Teachers were given the opportunity to rate the importance of several information sources including the results of pupil performance on the CRT for making decisions about planning, grouping, or about remediation or acceleration.

The rating scale ranged from Not important (1) to Crucial (5). Some of the information sources selected for use besides CRT scores were: teaching experience, self-made tests, curriculum-related tests, and other teachers' reports.

3. Do the report forms that are designed for teacher use report information in a useful way?

Question 18 addresses this question. Teachers were asked to comment on the usefulness of the presentation of information on the two report forms that are designed mainly for teacher use, the Individual Student Report Forms for Reading and Mathematics and the Individual Student Label. Teachers were presented with each element of the report forms and asked to indicate if the information was presented in a useful way.

4. How useful is the information reported in the Alternative Individual Student Report Forms A, B, and C for the various instructional decisions teachers may make?

Questions 26 and 27 of the survey address this issue. Teachers were presented with three versions of an Individual Student Report form. Versions A and B were adapted directly from a sample eighth grade CRT form. Version C contained all of the information of Forms A and B, but it also referred the teacher to the section of the Objectives and Assessment Characteristics booklet that would provide examples of the objective.

Teachers were first asked to rank the three report forms on usefulness: 1 = most useful, 3 = least useful. Teachers were then asked to rate the usefulness of each report form from Not useful (1) to Crucial (5) for seven instructional purposes including planning, grouping, and making decisions about remediation and placement.

Other subsidiary questions were also asked. These questions, along with the corresponding survey numbers are described in the next paragraphs.

5. What are the demographic features of the teachers sampled?

Questions 1 to 9, and 16 answered this question. In general, these questions sought information that might be relevant to a teacher's use of test reports, such as sex, age, highest degree received, number of hours of statistics courses, subject taught, and number of years teaching. These variables are among those identified by Goslin (1967) as being related to test use. School organization, that is, whether the eighth and ninth grades are in the same school, was also thought to be an important variable.

6. Who makes particular instructional decisions in a school system?

This question was addressed by item 10. The area being explored here was whether teachers see themselves as making certain instructional decisions, or whether others are the decision makers.

7. Do teachers need assistance, and is assistance provided in testing and in using test results?

Items 15 and 16 addressed this question. Teachers were asked to indicate if they needed assistance or if assistance was provided in testing or using test results. In addition, teachers were asked to indicate the number of hours of such assistance they had received in the last two years.

8. Which of the Eighth Grade Criterion-Referenced Test Reports are sent to the teacher, available to the teacher or would be helpful to the teacher?

Question 17 addressed this question. Teachers were asked to

indicate whether they had access to the report forms, either by having them sent to them or by being available. They were also asked to indicate if they thought the forms would be useful to them.

9. How do teachers rate the Alternative Summary of Student Report Forms?

Question 28 addressed this question. It asked teachers to rate the usefulness of a form that might be added to the existing set of forms.

Throughout the survey, teachers were provided with space to comment about the questions being asked or to provide additional information. These open-ended questions were designed to give the teachers an opportunity to elaborate on their responses, and to express other concerns they may have about the topic.

In summary, the survey was designed to address the research questions important to the study by eliciting responses from teachers to questions about their backgrounds, teaching situations, decision making, and use of information provided by test reports.

Distribution of the survey. The distribution of the survey to the teachers involved a two-step procedure. First, materials for each teacher were prepared and sent to the System Test Coordinator. Then, the test coordinator would send the materials to the teachers. This method was used because the materials were sent to the teachers by the Georgia State Coordinator of Student Assessment, Dr. Stan Bernknopf, and the test coordinators serve as liaison between their school districts and the Student Assessment office. In addition, the System Test Coordinators had provided excellent information during the sampling phase of the study it was felt that they would also be efficient in obtaining the completed surveys.

The System Test Coordinators were sent the following materials (see Figures A-3 to A-7 of Appendix A for examples of these materials): (1) a letter from Dr. Stan Bernknopf explaining the purpose of the study, the need for them to see that the materials were sent promptly to the teachers, and their role in the teachers' returning the surveys to them, and their returning the surveys to the investigator; (2) a checklist of the names of the teachers, and schools who were receiving the survey; (3) a copy of the survey, the letter sent to the teachers, and the Examples of Test Report Forms sheet; (4) manila envelopes containing teacher information addressed to the teachers to be included in the study; (5) a postage-paid sticker to be used by the System Test Coordinators to mail the completed surveys to the investigator.

In the teacher envelopes was the following: (1) a letter from Dr. Stan Bernknopf explaining the purpose of the study and the importance of their role in it, and the confidentiality of their responses; (2) a copy of the survey and the Examples of Test Report Forms sheet; (3) an envelope with their return address, addressed to their test coordinator. They were directed to seal their survey in the envelope and return it to their test coordinator. The test coordinator was instructed not to open the envelope, but to use the teacher's return address to check off the teacher's name when the survey was returned.

These materials were mailed November 5, 1984 with instructions that they be returned to the investigator by November 30. On December 15, at a meeting with all System Test Coordinators, Dr. Bernknopf reminded those test coordinators involved in the study who had not done so, to return the completed survey forms. On January 8, a memo was sent as a last reminder to those 15 school districts who had not returned their surveys

to do so (see Figure A-7, Appendix A).

Data Reduction and Editing

The surveys were returned in groups by the System Test Coordinators. As they were received, the district was checked off and the names of the teachers returning the surveys were also checked off. Each survey was assigned three codes: a school district code, a school code, and an individual code. The school district and school codes are those used by the state of Georgia in identifying schools and districts. The individual codes were assigned consecutively as the surveys were opened. A code book was prepared which list all of the variables, and the coding for all of the possible responses. Altogether there are 167 variables.

Data were entered into a file in the DEC/VAX=11/780 computer by terminal. The investigator read the codes of the responses while an assistant typed the responses on the terminal. After every 50 entries, two surveys were selected at random and were checked for errors in input. No errors were found using this checking procedure.

Once all of the data were entered, frequencies of all variables were run on the computer. Some data entry errors were located in this way. A program for analyzing the data was prepared using SPSSX (1983).

Teachers were given the opportunity to respond to open-ended questions. Then data were handled as follows: An assistant looked at a survey; if the teacher had responded to any open-ended questions, the assistant would prepare a 5 x 7 card, reporting the district, school and individual code for the teacher. The number of the item responded to was typed, with the teacher's comments, and so on through the survey. This procedure was followed with every survey.

The completed cards were then sorted by item number. All of the

comments per item number could then be typed and summarized. See Appendix B for summaries of these responses.

Summary

This section described how the sample was selected using two-stage cluster sampling, with the first stage selecting cluster proportional to their size, and the second stage using random sampling. The eighth grade CRT test reports and instructional materials selected to be included in the study were described. The development and description of the elements of the survey instrument were presented along with a description of the pilot study. The procedures for the distribution of the survey and related materials was outlined, along with the methods used to follow-up the return of the completed surveys. The final section describes the process used to edit the data, code them and enter them into the computer. The following section will describe the results of the data analyses.

CHAPTER IV

RESULTS

This chapter presents the results of the analyses of the survey data in four categories. First is the analysis of information about the teachers in the sample on several demographic variables. Second is the teachers' descriptions of who makes decisions about curriculum, instructional planning, and assignment of students to classes. This section also includes the analysis of how teachers use test results for various instructional purposes. Third, teachers were asked about their need for and availability of assistance with using test information, and about the availability of particular Georgia test forms. Finally, information is presented for teacher evaluations of the usefulness of Georgia test report forms for specific instructional purposes.

The Sample

Response rate: Total sample. Of the 800 teachers sent surveys 592 or 74 percent were returned. Twenty of those returned were blank. The reasons given for the blank surveys were either that the teacher was no longer at the school or that the teacher did not wish to respond. This left a final sample of 572 teachers or 72 percent of those contacted. Of the 141 schools in the initial sample, responses were received from teachers in 130 schools or 92 percent of the schools contacted. There were 90 school districts included in the original sample. Responses were received from teachers in 81 school districts; 90 percent of the districts were represented by teachers in the survey.

Ten completed teacher surveys were returned to the Georgia Department of Education without any indication of the school or school district represented. These were included in the analysis.

Response rate: Content areas. Surveys were sent to 400 ninth grade language arts and/or reading teachers and to 400 ninth grade mathematics and/or remedial mathematics teachers. Responses were received from 290 or 73 percent of the language arts/reading teachers and from 282 or 71 percent of the mathematics/remedial mathematics teachers.

Demographic Variables

The sex of the respondents was reported as 155 or 27 percent men, 412 or 73 percent women, with 5 teachers not responding to this question. The ages of the teachers ranged from 21 years old to 64 years old, with the mean of 37.7, standard deviation of 9.01 and median of 37.0. Twenty-four teachers did not report their ages.

Teachers were asked to report the highest degree or certificate they had received. Table 1 reports the findings from this question. The majority of teachers held the bachelor or master's degree (81%). The year the degrees were received ranged from 1944 to 1984, with the median year being 1975. The number of years of teaching experience ranged from one year to thirty-eight years. The median number of years of teaching experience was eleven years.

Table 1

Highest Degree or Certificate Earned

Degree or Certificate	<u>n</u>	%
Bachelor's	243	42.5
Master's	220	38.5
Sixth-year	97	17.0
Doctoral	11	1.9
Missing	<u>1</u>	<u>.2</u>
Total	572	100.0

Teachers were also asked the number of hours they had earned in undergraduate or graduate courses in testing, educational research or statistics. The number of hours reported ranged from 0 to 30 hours earned. The mean number of hours was 9.38, with a standard deviation of 7.96. The largest number of teachers, 130 (23%), reported having zero hours of credit in these fields.

Teachers were asked to report the number of hours they had spent in the last two years receiving assistance or instruction related to using test results. The results are shown in Table 2. Over a third of the teachers reported they had received zero hours of assistance or instruction and a total of 73 percent have received three or fewer hours of such assistance in the last two years.

Table 2

Number of Hours Receiving Instruction in
Test Use in the Last Two Years

Number of hours	<u>n</u>	%
0 hours	207	36.3
1-3 hours	208	36.4
4-6 hours	84	14.7
7-10 hours	40	7.0
Over 10 hours	32	5.6
Missing	1	.2
TOTAL	572	100.0

Teachers were asked to describe the setting of the school in which they teach by reporting if it were in a rural, suburban or urban area. About a fourth (24.7%) of the teachers described the school as being in a urban setting, 27.6% taught in a suburban school, and 46.5% reported teaching in a rural school. Data were missing for seven teachers.

Teachers were asked to provide another dimension to the description of their school setting by reporting which grade levels are in the school in which they teach. Table 3 presents the distribution of grade levels in the schools.

Table 3

Number and Percentage of Teachers in Schools
Organized by Grade Levels

Grades	<u>n</u>	%
8-12	133	23.3
9-12	354	62.0
8-9	41	7.2
7-9	29	5.1
Other (7-12)	14	2.4
Missing	<u>1</u>	<u>0.0</u>
Total	572	100.0

About 35 percent of the teachers reported teaching in schools with grades eight and nine in the same building. Over 62 percent of the teachers reported that they worked in schools with grades 9-12. Thus about one-third of the sample are in a school organization where the grade 8 and 9 teachers, who are both concerned with using these test results, are in the same building.

The percentage of teachers teaching language arts and/or reading and mathematics and/or remedial mathematics is reported by sex in Table 4.

Table 4 shows that of 284 language arts or reading teachers, about 80 percent are women. While a greater proportion of men in

Table 4

Number and Percentage of Male and Female Teachers by Content Area

Sex	Language Arts		Reading		Language Arts/ Reading		Mathematics		Remedial Mathematics		Mathematics/ Remed.Math.	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Female	160	55.4	28	9.7	45	15.6	127	43.8	24	8.3	37	12.8
Male	42	14.6	4	1.4	10	3.5	63	21.7	8	2.8	31	10.7

Note. n for percentages for Language Arts/Reading is 284.

Note. n for percentages for Mathematics/Remedial Mathematics is 288.

this sample teach mathematics, remedial mathematics or both (over 35%), the data indicate that a majority of high school teachers in these content areas in Georgia are women.

In summary, the sample response rate of 572 is 72 percent of the 800 teachers sampled. There were 400 language arts and/or reading teachers and 400 mathematics and/or remedial mathematics teachers contacted. In the final sample, 290 of the teachers teach language arts and/or reading, and 282 teach mathematics and/or remedial mathematics. About three-fourths of the respondents are female and one-fourth are male. Over 460 teachers (81%) have either bachelors or masters degrees as the highest degree, and the degrees were earned in the years 1944 to 1984, with the median year being 1975. The number of years of teaching experience ranged from 1 to 37 with the median number of years of teaching experience at eleven years.

One hundred thirty teachers (24%) reported no course work in statistics, educational research, or measurement in their college programs.

The median number of hours in these subjects is 10.00 for all teachers reporting. Over 36 percent of the teachers (207) report that they have received no hours of instruction or assistance in using test results.

About one-half of the teachers teach in schools they classify as rural, with one-fourth of the teachers classifying their schools as being in urban or suburban areas. About two-thirds of the teachers report that they work in schools with grades nine to twelve with about one-third of the teachers working in schools with both eighth and ninth grades in the same building.

Information Sources and Decisions

Teachers were asked to indicate all of the individuals or groups who make decisions in their school or school system about the curriculum to teach, who assigns students to classes, who decides about accelerating students and who decides about remediating students. Table 5 reports the findings of those questions.

Table 5 shows that almost a third of the teachers (30.4%) reported that they decided about the curriculum to teach. Teachers are also represented in curriculum decisions through membership in committees that decide about curriculum (63%). Seventy-one percent of the teachers reported that curriculum specialists decide the curriculum to teach.

Teachers report principals and counselors are mainly responsible for deciding the assignment of students to classes (50.5% and 82.0% respectively). Teacher committees and teachers themselves are reported as less frequently involved in this decision. Over half of the teachers (57.0%) reported that they make decisions about accelerating students, and that counselors (70.1%) and principals (43.0) also make these decisions.

Table 5

Number and Percentage of Teachers Checking School or District Decision Makers

Decision Makers	Decisions							
	Curriculum		Assigning				Remediating	
	to Teach		Students to Classes		Accelerating Students		Students	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
I decide	174	30.4	202	35.3	326	57.0	365	63.9
Teachers' Committees	350	62.9	119	20.8	190	33.2	236	41.4
Counselors	139	24.3	469	82.0	401	70.1	421	73.6
Principals	284	49.7	289	50.5	246	43.0	256	44.8
Curriculum Specialists	408	71.3	102	17.8	100	17.5	129	22.6
Others	49	8.6	66	11.5	52	9.1	47	8.2

Note. n for percentages is 572, total number of survey respondents.

About two-thirds of the teachers (63.8%) report that they make the decision to remediate students. Counselors (73.6%) and principals (44.8%) also are reported to be involved in making decisions about remediating students.

As shown by the four types of decisions in Table 5, teachers reported they are most involved in decisions about accelerating and remediating students. They report themselves, as individuals, as deciding least on the curriculum to teach. Along with counselors, they are the

main school staff involved in decisions to remediate or accelerate students. Decisions about the curriculum to teach are reported to be made most often by curriculum specialists, teachers' committees, and principals.

The next series of questions sought teachers' views of the sources of information used to assign students to classes. Table 6 reports the frequencies and percentages of their responses.

Table 6 indicates that previous grades (88.3%) and teachers' recommendations (87.4%) are most often used as information sources for deciding about assigning students to classes. In 53.1 percent of the cases the scale scores of 191 on the reading portion and of 190 on the mathematics portion of the Eighth grade CRT are also used to make these decisions.

Teachers using the score of 191/Reading and 190/Mathematics were examined with other teacher variables using the chi-square procedure (see Tables C-1 to C-6, Appendix C for chi-square tables). When examined with setting of school (rural, suburban, urban) the results were significant, $\chi^2(2, N = 562) = 8.6834, p = .013$ (see Table C-1, Appendix C). Schools in rural settings are less likely to use the scale scores in assigning students to classes.

When the scale scores are examined with the variable, "are eighth and ninth grades in the same school building?", the results were significant $\chi^2(1, N = 567) = 18.892, p = .000$ (see Table C-3, Appendix C). That is, schools with no eighth grade are less likely to use this information than schools with eighth and ninth grades in the same building. For example, twenty-eight percent (75 teachers) of

Table 6

Sources of Information for Assigning Students to Classes

Source of Information	<u>n</u>	%
Previous Grades	505	88.3
Teachers' Recommendations	500	87.4
Counselors' Recommendations	375	65.6
Score of 191/Reading or 190/Mathematics on 8th grade CRT	304	53.1
Scores on other CRT	66	11.6
Scores on other tests	167	29.2

Note. n for percentages is 572, total number of survey respondents.

teachers in the latter schools indicated the scale score is not used, whereas 72 percent of teachers in schools without eighth grades said the scale score is not used. There were also significant differences when this variable was crossed with whether the teachers had received hours of instruction in using tests and test results $\chi^2(4, N) = 15.19114, p = .0043$. Teachers receiving four or more hours of instruction in test use were more likely to indicate that the scale score was used (65%) than were teachers with less than four hours of instruction (35%).

Teachers were then asked to rate how important they found these sources of information for making three instructional decisions. The

following rating scale was used: Not Important (1), Slightly Important (2), Important (3), Very Important (4), Crucial (5) and Do not Group (remediate or accelerate) (6). The three instructional decisions were, planning instruction at the beginning of the school year, grouping students within the class, and making decisions to provide remediation and acceleration of students. Tables of frequencies for these variables are in Tables C-7 to C-9 in Appendix C. Table 7 reports the means and standard deviations of the judgments teachers made about the importance of each of the sources of information for making the three instructional decisions excluding category 6.

When teachers were asked the sources of information used most often in planning instruction, teachers rated their teaching experience as the most important source of information ($\underline{M} = 3.944$, $\underline{SD} = .874$), and CRT test scores were rated as important ($\underline{M} = 3.034$, $\underline{SD} = 1.061$).

When asked about the importance of sources of information in grouping students in class, teachers reported that their own observations were most important ($\underline{M} = 3.964$, $\underline{SD} = .833$), the results of their own tests ($\underline{M} = 3.333$, $\underline{SD} = .976$), placement test results ($\underline{M} = 3.067$, $\underline{SD} = 1.129$), and CRT test scores ($\underline{M} = 3.055$, $\underline{SD} = 1.051$) were also seen as important. When asked about the kinds of information used for making decisions about remediation or acceleration, teachers rated their observations as very important ($\underline{M} = 3.988$, $\underline{SD} = .807$), the results of their tests ($\underline{M} = 3.471$, $\underline{SD} = .950$), and CRT test scores ($\underline{M} = 3.356$, $\underline{SD} = 1.040$) as also important.

Table 7

Means and Standard Deviations of Importance of Particular Sources of Information for Making Instructional Decisions

Instructional Decisions						
Sources of Information	Planning Instruction		Grouping Students Within the Class		Remediate/Accelerate	
	Mean	SD	Mean	SD	Mean	SD
Teacher reports	2.795	1.051	2.581	1.068	2.969	1.044
CRT test scores	3.034	1.061	3.055	1.051	3.356	1.040
My experience teaching	3.944	.874	-	-	-	-
Placement test results	-	-	3.067	1.129	3.000	1.115
Results of my tests	-	-	3.333	.976	3.471	.950
My observations	-	-	3.964	.833	3.988	.807

Need for Test Use Assistance and Availability of Test Report Forms

Teachers were asked if they needed assistance or instruction related to testing and using test results in several applications. They were also asked if such assistance was provided. The frequencies of their responses are listed in Table 8.

In all test-use areas but two--administering tests, and using test results for grouping in my class--from 50 to 55% of the teachers indicated that they would like to have assistance or instruction related to these areas. When asked if such instruction and assistance is provided to them, about 50 to 55 percent of the teachers reported that such

assistance was available in administering tests, analyzing test results, interpreting test results to students and parents, and using test results for placement. Less than half, 40 to 45 percent, of the teachers reported that assistance or instruction is provided for the purpose of using test results for making instructional decisions, using test results for grouping in class, for determining the relationship between the test and the curriculum guide, and for determining the relationship between the test objectives and the text book topics.

The need for assistance in each of the test-use applications was examined with the subject the teacher taught, and whether grades eight and nine are in the same building (see Tables C-10 to C-37, Appendix C).

The chi-square was significant for assistance needed in analyzing test results for teachers of language arts/reading (LAREAD) $\chi^2(2, \underline{N}) = 9.634, p = .0081$, where 66 percent of the language arts teachers indicated the need for such assistance (see Table C-14, Appendix C). Also the LAREAD variable was significant for teachers of language arts with the variable, assistance is needed to interpret test results to students, $\chi^2(2, \underline{N} = 286) = 5.992, p = .05$, where about 60 percent of teachers of language arts indicate they need such assistance (see Table C-17, Appendix C). Similarly, language arts and reading teachers showed significant chi-squares when examined with the variable, assistance needed to use test results for placement $\chi^2(2, \underline{N} 284) = 8.5336, p = .0140$. Sixty-four percent of language arts teachers indicate that they need such assistance. The LAREAD variable was also significant when examined with assistance needed in using tests for instruction $\chi^2(2, \underline{N} = 286) = 16.061, p = .0003$, with 63 percent of language arts teachers

Table 8

Assistance is needed and provided in testing or using test results

Test Use	I Would Like Assistance		Assistance is Provided	
	<u>n</u>	%	<u>n</u>	%
Administering Tests	184	32.2	317	55.4
Analyzing Test Results	315	55.4	323	56.5
Interpreting Test Results to Students	289	50.5	292	51.0
Interpreting Test Results to Parents	297	51.9	296	51.7
Using Test Results for Placement	311	54.4	313	54.7
Using Test Results for Instructional Decisions	295	51.6	255	44.6
Using Test Results for Grouping In My Class	233	40.7	228	39.9
Determining Relationship between the Test Objectives and the Curriculum Guides	313	54.7	259	45.3
Determining Relationship between the Test Objectives and the Text Book Topics	303	53.0	235	41.1

Note. Percentages are based on 572 respondents per question.

expressing a need for such assistance. The last significant chi-square was with LAREAD and the variable assistance needed using test results for grouping $\chi^2(2, N = 286) = 6.1958, p = .0451$, with 62 percent of language arts teachers, and 58 percent of teachers of both language arts and reading expressing no need to this kind of assistance.

The state of Georgia prepares several report forms and interpretive

materials for the Eighth Grade Criterion Referenced Tests. Two forms, the Individual Student Form and the Student Achievement Labels, are designed to be used by teachers. Two interpretive manuals are also designed for teacher use, the Teacher's Interpretive Guide and the Objectives and Assessment Characteristics. The other forms, Student Achievement Roster, Summary of Student Reports, and Item Analysis Forms, are prepared for the school and are sent to the principal, and may also be available for teacher use.

Teachers were asked to answer yes or no if these forms were sent to them, available for their use, and would be useful to them. The sample page used to remind teachers of the forms is given in Figure 1, Appendix A. Table 9 reports the results of these questions.

Less than 20 percent of the teachers reported that the forms were sent to them. From 55 to about 70 percent of the teachers reported that all of the forms and interpretive materials were available for their use. Between 76 and 85 percent of the teachers reported that the forms and interpretive materials would be helpful to them.

A cluster analysis was conducted using SPSSX Quick Cluster procedure to determine whether the groups of teachers responding that the forms were sent to them, or were available to them, or would be helpful to them, were unique in some respect. The initial cluster analysis for those teachers responding that the forms were sent to them resulted in two clusters. The first cluster contained teachers responding that the Individual Student Form, the Student Achievement Roster, and the Summary of Student Reports were sent to them. The second cluster formed

Table 9

Availability of Eighth Grade CRT Report Forms and Interpretive Materials to Grade Nine Teachers

Availability of Forms							
Name of Form	Sent To Me		Available For My Use		Would be Helpful to Me		
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	
Ind. Student Form	103	18.0	446	78.0	463	78.0	
Student Achieve. Roster	67	11.7	390	68.2	459	80.2	
Summary Student Reports	73	12.8	405	70.8	458	80.1	
Student Achieve. Labels	52	9.1	389	68.0	436	76.2	
Item Analysis Forms	54	11.2	369	64.5	457	84.9	
Teacher Interpret. Guide	44	7.7	336	58.7	475	83.0	
Obj/Assess Char.	46	8.0	312	54.5	453	79.2	

contained those teachers responding that the Student Achievement Labels, the Teacher's Interpretive Guide and the Objectives and Assessment Characteristics Manual were sent to them.

These two clusters were used in chi-square analyses with several descriptive variables (see Tables C-37 to C-50, Appendix C). These demographic variables follow: whether eighth and ninth grades were in the same school; the subject taught--reading, language arts, mathematics or remedial mathematics; setting of school--rural, suburban, or urban; the highest degree received; and the number of course hours in statistics or

measurement earned. Chi squares of Cluster 1 (see Tables C-37 to C43, Appendix C), forms sent to the teacher, were significant only with the variable that the eighth and ninth grades are in the same school $\chi^2(1, N = 567) = 6.96$ $p = .008$. This analysis found that 35 percent of the respondents in schools with eighth grades were grouped in the cluster, forms not sent to teachers. Thus, 65 percent of the teachers, those in schools without eighth grades, responded that they were not sent the Individual Student Form, the Student Achievement Roster, or the Summary of Student Reports. Chi-squares of Cluster 2 (see Tables C-44 to C-50, Appendix C), forms sent to the teacher, were also significant with variable eighth and ninth grades are in the same school, $\chi^2(1, N = 557) = 6.91$, $p = .008$. The significance was in the same direction as in the analysis with Cluster 1. That is, 65 percent of teachers in schools with no eighth grade reported that they were not sent the Student Achievement Labels, the Teacher's Interpretive Guide or the Objectives and Assessment Characteristics Manual. Chi-squares of Cluster 2 were also significant with the variable, I teach remedial mathematics $\chi^2(1, N = 557) = 5.28$ $p = .017$.

The second cluster analysis was conducted for those teachers responding that the forms were available for their use (see Tables C-51 to C-64, Appendix C). This procedure resulted in two clusters. The first cluster contained teachers responding that the Individual Student Form, the Student Achievement Roster, the Summary of Student Reports and the Student Achievement Labels were available for their use. The second cluster formed contained those teachers responding that the Item Analysis Forms, Teacher's Interpretive Guide and the Objectives and Assessment Characteristics Manual were available for their use.

These two clusters were used in chi-square analyses with several descriptive variables. These demographic variables follow: whether eighth and ninth grades were in the same school; the subject taught--reading, language arts, mathematics or remedial mathematics; setting of school--rural, suburban, or urban; the highest degree received; and the number of course hours in statistics or measurement earned. Chi-squares of Cluster 1 (see Tables C-51 to C56, Appendix C), forms available for the teacher's use, found no variables were significant. Chi-squares of Cluster 2 (see Tables C-58 to C-64, Appendix C), forms available for teacher use, was significant with the variable eighth and ninth grades are in the same school, $\chi^2(1, N = 550) = 5.41, p = .02$. The direction of the effect was the same as in the earlier analyses. Teachers in schools with eighth grades in separate buildings reported (68%) that they did not have the forms available, whereas about 32 percent of teachers in schools with eighth and ninth together grades reported the forms were not available.

The cluster analyses indicated that there may be significant differences between teachers on the questions of whether a form is sent or available of the CRT forms based on the organization of the school, i.e., whether the eighth and ninth grades were in the same administrative unit. To examine this finding in more detail, individual chi-square procedures were performed on all of the questions about whether a form was sent or available with the variable of whether eighth and ninth grades are in the same administrative unit (see Table C-65 to Table C-78, Appendix C). Table 10 shows the number and percentage of teachers indicating "No", the forms are not sent, in relation to whether the eighth and ninth grades are in the same building.

Table 10

Number and Percentage of Teachers Responding "No", Forms not Sent or Available, by Whether Grade Eight is in the School

Form	School Organization			
	Grades 8-9		Grades 8-9	
	In Same Building		Different Building	
	n	%	n	%
Ind. Stu. Form Sent*	164	28.9	302	53.2
Ind. Stu. Form Avail.	38	6.8	79	14.1
Stud. Ach. Roster Sent	184	32.5	317	55.9
Stud. Ach. Roster Avail.	58	10.3	113	20.1
Summ. St. Report Sent*	178	31.4	317	55.9
Summ. St. Reports Avail.	51	9.1	106	18.9
St. Ach. Label Sent*	187	33.2	325	57.7
St. Ach. Label Avail.	65	11.6	105	18.8
Item Analysis Sent*	181	32.2	318	56.6
Item Analysis Avail.*	59	10.6	129	23.2
Interpret. Guide Sent	190	33.9	326	58.2
Interpret. Guide Avail.*	70	12.7	148	26.8
Obj/Assmt. Manual Sent	189	33.8	325	58.1
Obj/Assmt. Manual Avail.*	77	13.9	165	29.8

Note. * indicates significant chi-squares.

The results of the individual chi-squares indicate that there was a significant difference between the accessibility of report forms and whether the eighth and ninth grades are in the same building. That is, a greater proportion of teachers respond that the Individual Student Form, the Item Analysis Form and the Summary of Student Forms, were not sent to them if they are in schools without eighth grades. Similarly, a greater proportion of teachers report that the Item Analysis Form, and the Objectives and Assessment Manual are not available to them if they are in schools without eighth grades.

Usefulness of Test Report Forms

Two of the Georgia CRT report forms are designed specifically to be used by teachers in planning instruction, the Individual Student Report Form and the Individual Student Label. These two forms report a variety of information about a student's results on the mathematics, reading and career development criterion-referenced tests. In order to determine the usefulness of each aspect of these two forms, teachers were asked to respond yes or no to the question, Does the State report the Criterion-Referenced Test scores in a way that facilitates your use of the information? The teachers' "Yes" responses to each aspect of the Individual Student Report Form are reported in Table 11.

Table 11 illustrates that teachers were strong in their support of the information reported in the Individual Student Report Form. Over 60 percent of teachers found every aspect of the form useful. However, 11 percent of the teachers reported that they could not judge the forms since they did not have them available for use.

Table 11

Number and Percent of "Yes" Responses to the Usefulness
of Information of the Individual Student Report Form

Information	Useful	
	<u>n</u>	%
Scale Score	390	68.2
Cut-Off Score	394	68.9
Listing of Each Objective	450	78.7
No. items answered correctly	427	74.7
No. Items needed to pass	436	76.2
Whether student achieved the objective	463	80.9
Listing of areas for additional instruction	441	77.1

Table 12 reports "Yes" responses to the question, Does the State report the Criterion-Referenced Test scores in a way that facilitates your use of the information? The test report form in question here is the Individual Student Label.

Teachers showed strong support for each component of the Individual Student Label. From 70 to 80 percent of the teachers found the information reported usefully. Twelve percent of the teachers said they could not make judgments because they had not seen or used the form.

Usefulness of Forms for Decisions

The Individual Student Report Form, the Individual Student Achievement Label, and the other test report forms and instructional materials may be used by teachers for instructional purposes such as

Table 12

Usefulness of Information on the Individual Student Label

Information	Usefulness	
	<u>n</u>	%
Skill area into which objectives are grouped	441	77.1
Indicating objective was achieved (*)	456	79.7
Indicating objective was not achieved (-)	445	77.9
Indicating objective was not attempted (N)	414	72.4

planning instruction, grouping, or placement of students for remediation or acceleration. The next series of questions asked teachers to rate how important they found each of the test report forms and instructional materials for planning instruction, grouping, or placement of students in remediation or acceleration. Teachers were asked to rate the forms for each instructional application from Not important (1) to Crucial (5). The instructions for the questions indicated that items should be skipped if a particular form was not available to the teacher. The items skipped because the form was not available were coded Not available (6). See Tables C-65 to C-71, Appendix C for the tables of frequencies of responses for these items. Table 13 reports the means and standard deviations of the ratings of these items.

The data in Table 13 show that all of the means of the teachers' responses to the importance of various report forms for the three instructional decisions clustered around the rating Important (3). It appears that the teachers assigned somewhat similar ratings to each of

the forms for the three instructional situations. Examination of the frequencies reflects the similarity of the grouping of responses around the rating 3, with few responses made in the 1 and 5 choices.

Alternate Individual Student Report Forms

Teachers were asked to consider three report forms, two of which were exactly like report forms used by Georgia, and one which included additional information. First, the objective being tested was stated and described. Report A reported the number of items needed to achieve the objective, the number answered correctly, and whether the objective was achieved or not. Report B reported all of the information of Report A, plus suggestions of areas of additional study. Report C reported all of the information of Report B, plus a reference to teachers of where to look in the Objectives and Assessment Characteristics book for examples of the objective.

Teachers were asked to rank the three reports according to the following scale: Most Useful (1), Next Most Useful (2), Least Useful (3). The frequencies and percentages of responses for these questions are reported in Table 14.

Table 14 reports that almost all (93%) of the teachers found Report A to be the least useful of the test reports. Report B was found to be next most useful by over 85 percent of the teachers. Report C was judged to be the most useful by 83 percent of the teachers, while 10 percent found it next most useful.

Table 13

Means and Standard Deviations of the Rating of the Importance of each Report Form for Three Instructional Decisions

Report Form	Mean	SD
Individual Student Report		
Planning	2.952	1.075
Grouping	3.163	1.047
Remediation/Acceleration	3.365	1.031
Student Achievement Roster		
Planning	3.002	1.101
Grouping	3.090	1.079
Remediation/Acceleration	3.199	1.061
Summary of Student Reports		
Planning	2.895	1.088
Grouping	2.986	1.096
Remediation/Acceleration	3.037	1.087
Student Achievement Labels		
Planning	2.730	1.102
Grouping	2.871	1.096
Remediation/Acceleration	3.037	1.087
Teacher's Interpretive Guide		
Planning	2.864	1.102
Grouping	2.766	1.177
Remediation/Acceleration	2.841	1.186
Objectives and Assessment Characteristics		
Planning	3.005	1.136
Grouping	2.879	1.131
Remediation/Acceleration	3.000	1.146
Item Analysis Form		
Planning	2.826	1.121
Grouping	2.692	1.142
Remediation/Acceleration	2.794	1.150

Teachers were then asked to rate the same three reports for their usefulness in seven instructional situations: analyzing test results, interpreting test results to students, interpreting test results to

Table 14

Rankings of the Alternative Individual Student Report Forms

Report Form	Usefulness					
	Most Useful		Next Most Useful		Least Useful	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Report A	15	2.6	13	2.3	529	92.5
Report B	62	11.0	488	85.3	6	1.0
Report C	480	84.1	54	9.8	21	3.9
Missing Cases	15	2.6	15	2.6	15	2.6
TOTAL	572	100.0	572	100.0	572	100.0

parents, grouping students in class, decisions about remediation, decisions about acceleration, planning instruction, and the overall usefulness of the report. Teachers were asked to rate the usefulness of the reports from 1 to 5 on the following scale: Not Useful (1), Slightly Useful (2), Useful (3), Very Useful (4), Crucial (5). Tables of frequencies and percentages for the teachers' ratings of each form are given in Tables C-86 to C-88, Appendix C. Table 15 reports the means and standard deviations of these frequencies.

Examining the means for Reports A, B, and C on each of the seven instructional applications of test reports shows a clear trend of lower

ratings for Report A, next highest rating for Report B, and highest ratings for Report C on all applications. The means for all instructional situations for Report A are near to rating 2, Slightly Useful. Those for Report B, are near rating 3, Useful, and those for Report C are near rating 4, Very Useful. The mean given by teachers to

Table 15

Means and Standard Deviations of Ratings of Reports A, B, and C
For Several Instructional Applications

Instructional Application	Ratings by Report					
	Report A		Report B		Report C	
	<u>M</u>	s.d.	<u>M</u>	s.d.	<u>M</u>	s.d.
Analyzing Test Results	2.366	.968	3.185	.770	3.758	.810
Interpreting Test Results to students	2.238	.977	3.295	.777	3.844	.833
Interpreting Test Results to parents	2.194	.954	3.298	.773	3.838	.818
Grouping students in class	2.246	.925	3.123	.793	3.712	.911
Decisions about remediation	2.342	.967	3.215	.754	3.801	.835
Decisions about acceleration	2.313	.989	3.134	.805	3.721	.903
Planning instruction	2.224	.959	3.225	.821	3.899	.860
Overall Rating	2.237	.881	3.233	.710	3.874	.808

the overall rating for each report is 2.237 for Report A, 3.233 for

Report B, and 3.874 for Report C.

In order to investigate the differences between the means of the three reports, one-way ANOVAs were performed for each instructional application across the three report variables. The SPSSX program MANOVA was used to perform the analyses. Table 16 reports the results of the F tests.

Table 16

Effects of Responses to Usefulness of Reports A, B, and C, by Instructional Application

Variable	<u>F</u> Value (2, 1,124)	Probability of Larger <u>F</u>
Analyzing Test Results	644.1	.000
Interp. Test Results Students	784.3	.000
Interp. Test Results Parents	874.6	.000
Grouping Students	720.8	.000
Remediation	699.4	.000
Acceleration	640.0	.000
Planning Instruction	894.8	.000
Overall Usefulness	968.3	.000

As Table 16 indicates, there were significant differences in the ratings teachers assigned to the instructional situations, for each of the three forms. Report A was rated the least useful, Report B, the next most useful, and Report C, most useful for every instructional situation. Another expression of the similarity of views about the three forms is that the confidence intervals around their means did not

in any instance overlap. That is, the deviations in the ratings were relatively small, and thus the confidence intervals did not overlap.

This view of the forms was reflected by the teachers' responses to open-ended questions (see Appendix B for a summary of these comments). One person expressed support for Report A, four found Reports B and C helpful, and twenty-six teachers commented about the usefulness of Report C. An example of the responses teachers made is the following:

Report C makes the most sense to me as a teacher. I use the information to explain weaknesses to the student and can review problems to be sure I understand exactly what the objective is testing. Report C is the most useful.

The final question asked teachers to consider an Alternative Summary of Student Report Form. This form would provide a summary to the teacher for students in their ninth grade class on the students' performance on the eighth grade CRT. Teachers were asked to rate the usefulness of this report by selecting the response that best represented their view of the usefulness of the report. The scale used in the question is: Not Useful (1), Slightly Useful (2), Useful (3), Very Useful (4), Crucial (5). Ninety-three percent of the teachers rated the form useful, very useful, or crucial, with the mean being 3.730 and the standard deviation, .784. About seven percent of the teachers rated the form not useful, or slightly useful.

Teachers were given the opportunity to respond about the usefulness of this form. Seventeen teachers commented that the report form would be helpful to them. An example of such a comment is:

Summary reports such as the one above would be very helpful. We get 9th graders from the middle school without any information. When you have 155 students it is impossible to study cumulative files before the beginning of school. With such information we could find misplaced students before they are placed in a failing situation.

CHAPTER V

DISCUSSION

Large-scale testing programs, including minimum competency testing, are mandated in 35 states (Gorth & Perkins, 1979). Although the results of these tests are often used for summative evaluation of schools, school systems, and state departments of education, many educators believe that the results can be used to inform teachers in order to individualize and improve instruction (Rudman et al., 1980). Test publishers have attempted to make test results more useful to teachers by producing narrative test reports to supplement or replace traditional numeric or graphic presentations of results.

The test use literature (Rudman et al., 1980; Yeh 1980; Salmon-Cox, 1983) underscores the need for a study to determine whether high school teachers find the test reports important and useful when making instructional decisions. Most test-use studies have examined elementary teachers' use of test reports, since for many years achievement and criterion-referenced testing was conducted in the elementary grades. With the rise of the minimum competency testing movement, secondary teachers are now finding themselves responsible for preparing students for achievement tests, and are a new audience for the report forms prepared for use with these tests.

This study was conducted to examine how teachers use the test report forms and other instructional materials prepared for one such state-mandated testing program, the Georgia State Criterion Referenced Tests. Teachers were surveyed to learn whether they used the reports

for instructional decisions that teachers often make: planning, grouping, and making recommendations for remediation or acceleration (Shavelson & Stern, 1981). They were also asked whether the forms were sent, made available, or would be helpful to them; whether the format or presentation of the data on the forms was useful; and which of three formats of forms was most useful in making several instructional decisions. These questions were then looked at with the demographic responses the teachers made such as highest degree received, number of hours of statistics or measurement courses, subjects taught, number of hours of instruction in using the test reports, and school organization.

In this chapter, the findings will be summarized and discussed. In addition, the implications for practice as well as for further research will be explored.

Major Findings

The Sample.

Demographic variables. The teachers surveyed were 572 teachers of ninth grade language arts, reading, mathematics or remedial mathematics. The teachers represented 130 schools in 81 school districts. The sample included 290 teachers of language arts or reading, and 282 teachers of remedial mathematics or mathematics. About three-fourths of the respondents were female, and one-fourth male, and these percentages are similar to the percentages of males and females in the sampling frame developed from the lists of teachers for each of the four subjects prepared by the system test coordinators.

Test Use

Tests and other information sources. Earlier research has indi-

cated that high school teachers tend to use other sources of information rather than test results when making instructional decisions about students (Goslin, 1967; Yeh, 1980; Salmon-Cox, 1983; Ward, 1982). The other sources most used include their own experience teaching, and the reports of other teachers.

Several questions in this study provide additional data on this issue. Teachers were asked to check the sources of information used to assign students to classes. The responses indicated that teachers' recommendations (87.4%), previous grades (88.3%), and counselors' recommendations (65.6%) were the most used information sources. Fifty-three percent of the teachers indicated the cut-off scaled scores of 191 on the reading CRT and 190 on the mathematics CRT was used. This scale score is used somewhat as a predictor of success on the Basic Skills Tests. That is, students who score below a cut-off point on the scale scores are identified as students likely to have difficulty passing the Basic Skills Tests. Since the teachers could mark as many sources of information as they wanted, it can be assumed that the decision to assign students to classes is usually made with a combination of the sources.

The use of the scale score was investigated with other variables to see if there were differences in the groups who tended to use this information for assigning students to classes. The variables examined were the setting of the school (urban, suburban, and rural), whether grades eight and nine were in the same building, the subjects the teachers taught, hours of statistics or measurement courses and number of hours of test use training they had received. Significant chi-squares were found with setting of school $\chi^2(2, N=567) = 8.6834, p = .013$

where teachers in rural settings reported less use of the scale scores in assigning students to classes. Teachers in schools without an eighth grade also were less likely to report the use of the scale score $\chi^2(1, N = 561) = 18.892, p = .013$. Teachers of remedial mathematics as well as those who teach both remedial mathematics and mathematics tended to report use of the scale score, $\chi^2(1, N=282) = 14.49118, p=.0007$, as did teachers who teach both language arts and reading, $\chi^2(1, N = 279) = 15.924, p = .0003$. Teachers who reported zero to three hours of test use instruction (36%) are less likely to use the scale score than are teachers receiving four or more hours of instruction $\chi^2(4, N=578) = 15.191, p=.0043$.

The scale score may be seen as being representative of the information reported on the individual test report forms, and as such, these results indicate that the use of this information may vary depending on the setting and organization of the school as well as the subject matter taught. For example, one reason rural schools may be less likely to use this information is that they are often small districts that may not have the resources to provide training for their teachers in the use of the test results. Their system test coordinators may be high school counselors or assistant superintendents with a variety of other responsibilities who may not be as likely to provide the training the teachers need.

That ninth grade teachers in schools without eighth grades use this information less than teachers in schools with eighth grades may indicate that school organization may contribute to the problem of use of test information. The fact that the majority of the teachers surveyed (62%) teach in schools with grades nine to twelve may indicate

that that there is a problem in transferring information from one school building to another. Report forms sent directly to the ninth grade schools, or better, to the teachers, may improve these teachers' knowledge of and use of the test results.

Test use for instructional decision-making. A series of questions further explored teacher use of sources of information in making three instructional decisions: planning at the beginning of the school year, grouping students within the class, and making decisions to remediate or accelerate students. Teachers again tended to rate their own experience teaching and their observations of student work as most useful in making these decisions. CRT test scores were also rated as important, as were all of the other sources of information. This supports the earlier research of Shavelson and Stern (1981) that as decision makers, teachers work in a complex environment and must sort through a variety of information before they reach an instructional decision. This suggests that if test information is to be used, it must be presented in a format that is useful to teachers.

Factors mitigating against test use. Goslin (1967) and Ward (1980) identified lack of courses and training in measurement and test use as factors related to teachers not using test information. This report found that 23% of teachers had no courses in testing and measurement and 45% had six or fewer hours. Another question addressed the inservice training that was provided to teachers by the school or system. Seventy-three percent reported that had received three or fewer hours of inservice training in test use in the last two years.

Teachers also report that they would like assistance in using test results. For example, over 50% of the teachers indicated they would

like assistance in analyzing test results (55.4%), interpreting test results to students (51%), interpreting test results to parents (52%), using test results for instructional decisions (52%), determining the relationship between the test objectives and the curriculum guide (55%); and determining the relationship between the test objectives and the textbook topics (53%).

Given this request for assistance in using test information by teachers, and the number of teachers with no courses or training in test use, state testing officials and district test coordinators may want to reconsider the current methods of training teachers in test use. This reconsideration may include developing plans to identify teachers who are most likely to need to use the test information, assessing their ability to interpret test reports, planning training sessions in test use, and clarification of the report forms themselves, if necessary. Materials like the Test Box (Wanous & Mehrens, 1981) are available to assist school districts in providing training to teachers in the use and interpretation of test scores.

In another series of questions, teachers were asked about the accessibility of all of the test report forms and test information examined in this study. Teachers were asked to respond "Yes" or "No" if the forms were sent to them, available to them, and would be helpful to them. Examples of the report forms were provided for the teachers' reference. Teachers indicated that of the two forms provided expressly for their use, the Individual Student Form and the Student Labels, only 18 percent had the Individual Student Form sent to them, while 78 percent said it was available for their use and would be helpful to them, and only 9.1 percent reported the Student Labels were sent to them,

while 68 percent said they were available for their use and 76.2 percent indicated that they would be helpful to them.

Two test manuals have been prepared to inform teachers about the test reports and the testing program, the Teacher's Interpretive Guide and the Objectives and Assessment Characteristics. About 80 percent of the teachers indicated the manuals would be helpful to them, but only 55 percent of the teachers reported they were available. Swain (1982) reported that teachers used test reports more often when they were sent to them.

The problem of availability of test reports is compounded by the school organization variable examined, that is, whether the eighth and ninth grades are in the same building. A cluster analysis of the forms by whether they were sent, available, or would be helpful showed a greater proportion of teachers reporting that the forms are sent to them when the two grades are in the same building. Also, more ninth grade teachers in schools with eighth grades indicate that the reports are helpful to them than do teachers in schools with grades nine to twelve.

Thus, while teachers express strong support for the content and format of the test reports and materials, a large percentage of teachers do not have these materials on hand to use. It may be that the current method of preparing test reports to be filed in students' permanent record folders is better suited to elementary school settings, where teachers may have 25 to 30 students for whom to plan instruction. High school teachers may not have time to gather the test report information together in order to use it with their classes. This may explain why the teachers in the Salmon-Cox (1982) study reported that they only went to the permanent record file when they had a student with a particular

problem, and they needed more information about the student.

Narrative Test Reports

Usefulness of Individual Student Report and Student Labels. Two Georgia CRT reports are designed specifically for use by teachers, the Individual Student Report and the Student Labels. Teachers were asked to respond "Yes" or "No" to the question of how useful each of the components of these reports was in helping them use the test information. Teachers were strong in their support of the format and information presented by these reports (68% to 81% responding "Yes" the components of the reports are useful). Particularly strong support was expressed for the four test report components of the Student Label (72% to 80% approval). Teachers were given the opportunity to comment about these reports in an open-ended section. There were no negative comments written about the content or format of these report forms. However, several teachers wrote comments expressing the view that: "I wish these forms were made available to me. I have to pull each permanent record of each of 150 students and record the information off of the label." So, while teachers find the information and its presentation useful, they may find the forms themselves not readily available.

Usefulness of the Alternative Individual Student Report Forms.

Teachers were asked to rank, then rate three versions of this form. Two forms, Reports A and B, were examples taken from Georgia eighth grade CRT reports. Report A presents only the number of items needed to be passed to achieve the objective, the number the student answered correctly, and whether the objective was achieved. Report B presents the same information plus some comment to the student about subject areas needing review. Report C was developed by the investigator; it contained all of

the information of Report B, plus the advice as to where in the Objectives and Assessment Characteristics booklet examples of the objective will be found. Teachers strongly indicated their preference for Report C (84% indicated that it was most useful). Report B was ranked next most useful by 87.7 % of the respondents and Report A was seen as least useful by 95 % of the teachers.

Teachers were invited to write comments about these reports (see Appendix B). The comments were generally supportive of Reports C and B. Two typical comments are these: "Report C would help each of us. It could be given to us at the beginning of the year." "Report C was the best because it showed me where to go for help. Maybe all of these forms are available to me, but no one has ever told me they were available. I did not know they existed."

Three teachers made this suggestion for improving Report C: "Report C would be more useful if it provided information about linking the test to the text books we use."

Teachers tend to find the Individual Student Report Form most helpful if it provides the link from testing to instruction that Rudman, et al. (1980) discussed. The information added by the investigator about where to go in the Objectives and Assessment Characteristics booklet is readily available to the test publisher, and could be incorporated into the program that produces the test reports. Objectives and Assessment Characteristics, however, is reported to be available by only about 56% of the teachers in this study. Therefore, more widespread distribution of this booklet would be needed to make this alternative form useful to teachers. This finding may be illustrative of the types of studies needed to systematically vary the information and report formats to

increase teacher use of tests in decision-making for instruction.

Teacher Decision-Making.

Teachers' views of decision-makers in schools. A number of teachers reported that they, either as individuals or as a group, are decision-makers in three major areas of school life: deciding about the curriculum to teach (30% as individuals, 63% as a group); deciding about accelerating students (57%, and 33% respectively); and decisions about remediating students (64%, and 41% respectively). At the same time, teachers also report sharing these responsibilities with curriculum specialists, counselors, and principals.

When making these decisions, teachers report that they find the student's previous grades (88%), other teachers' recommendations (87%), and counselors' recommendations (65.6%) the most useful sources of information. Fifty-three percent of teachers also report that test results are useful in making these decisions. These data reinforce Shavelson's (1973, 1976) observations of teachers as decision-makers working in complex, information-laden environments. This implies that if test publishers and state boards of education wish test information to be used by teachers in making instructional decisions, the information must be conveniently available to the teachers and in a form that is useful for the kinds of decisions they make about students.

Usefulness of the existing CRT report forms for instructional decisions. One section of the study explored the extent to which teachers used the Georgia CRT report forms to make instructional decisions such as planning, grouping, and remediation and acceleration decisions. Teachers were asked to rate the importance of each test report form on a scale from Not Important (1) to Crucial (5), for each of

the three kinds of instructional decisions described by Shavelson and Stern (1981): planning, grouping, and remediation or acceleration decisions.

The means for the importance ratings of all report forms for every decision situation were in the 3.0 range (Important), indicating that teachers find the report forms important in making those instructional decisions. A number of teachers (from 22% to 33% depending on the report form) did not answer these questions because the forms or manuals were not available for their use.

These data, along with the data about the usefulness of the separate components of the Individual Student Report and the Student Labels, indicate that teachers find the information and format of the CRT report forms and manuals useful for decision-making. However, these data also indicate that a large number of teachers do not see the reports. Thus a recurring theme of forms and manuals prepared but not easily accessible to teachers, was found throughout the survey and directs attention to the system of distributing these forms.

In another question, teachers were asked to rate the usefulness of each of the three alternative report forms (Reports A, B, and C) for helpfulness in making a number of instructional decisions. Report C, the report developed by the investigator, was seen as the most useful of the reports for all instructional decisions. This report contains information about where in the Objectives and Assessment Manual the teacher may go to find information about the objective tested and an example of a test question testing this objective.

These data indicate that while teachers generally find the report forms now available useful, they greatly prefer a form that provides

more information, such as Report C, for decision-making. Teachers' strong preference for the information reported in Report C supports the work of Nisbett and Ross (1980) concerning the importance of presenting information in a format that is salient to the decision-maker. This may indicate to the test publishers that more investigation should be conducted into the amount and kind of information presented on the report forms.

Usefulness of the Alternative Summary of Student Reports Form. The official Summary of Student Reports form is prepared for every school where the eighth grade CRT is administered. For each objective, it lists all of the students in the school who have not achieved or have not attempted the objective. It is a school-wide report, not a classroom report. The investigator devised for teacher consideration a similar form that would provide the same information but for every relevant class (i.e. reading, language arts, mathematics, or remedial mathematics) for ninth grade teachers. The form would list the objectives of the eighth grade CRT and the names of the students in each class who had not achieved or not attempted the objective. This would provide for the ninth grade teacher a summary report of the achievements of the students on the eighth grade state-wide curriculum objectives for each student in a reading, language arts, remedial mathematics or mathematics class.

The response to this form was also very positive. Over 94 percent of the teachers thought the report was important, very important, or crucial. Written responses were also positive (see Appendix B). For example, "I teach approximately 150 different students every quarter. However helpful test report forms might be, I cannot spend time on them

because so many other things are more important. If I had a form (as above) for each of my classes instead of having to pull so many individual records to find the information, that would be very useful."

It may not be feasible for the State testing program to prepare individual summary reports of eighth grade results for each ninth grade teacher of language arts, reading, mathematics and remedial mathematics. However, the technology may be available for the computer tapes of these student records to be forwarded to school districts or even schools, with computer programs prepared to assist the districts in printing class lists for teachers. This may be most useful in situations where the eighth and ninth grades are in different buildings.

Implications

For Practice. The test forms prepared for use with the Georgia eighth grade CRT are found to be very useful by the teachers in this study. Teachers expressed repeatedly how useful they were and how important the information they presented is in making particular instructional decisions. Other state testing programs may want to examine these forms when developing their narrative and more traditional test report forms.

The study points to the need for improvement of some of the forms. The Individual Student Report Form could be improved by adding information about resources for helping students who did not achieve the objectives. The Summary of Student Reports would be more useful if it could be prepared for ninth grade classrooms, particularly for schools with the eighth grades in a different building.

As good as a form may be, however, it is not of much value if it is not accessible. A critical problem seems to be that large numbers of

ninth grade teachers do not use the report forms. One of the main reasons for this appears to be that they have so many students that they cannot search out this information except under unusual circumstances. The Summary of Student Report forms, sent directly to the classroom teacher, would provide the information in a concise, useable form.

In addition, a substantial number of teachers in this study have had no research or measurement courses (23.7%), and 36% report no instruction in the use of the CRT in the last two years. At the same time, about fifty percent of teachers expressed a need for assistance in using tests. Training, at either the school or system level would inform teachers about the forms and materials available and perhaps increase the use of them.

For Research. Future research could be planned which allowed for the integration of the three research areas that this study encompassed: test use, narrative test reports, and teacher decision making. A model for this research is one proposed by Messick (1984) for looking at educational testing. This model suggests casting test conception and construction in terms of the intrapersonal and environmental contexts of the student. The intrapersonal contexts are those student characteristics that "might influence or interfere with the assessment of educational achievement and developed abilities" (p. 229). Whereas the environmental contexts are those influences on the student related to the learning opportunities in the home, school, and community.

Research concerning teachers' use of test reports may also be viewed in this way. For example, intrapersonal factors investigated in this study and others (Goslin, 1967) that seem to influence the use of test results are the subject taught by the teacher, the subject-matter

expertise, level of education, the way individuals may see themselves as decision makers in the school or classroom, and the personal and social needs of the teacher.

Messick also discussed as an intrapersonal factor of students the fact that they are beginning learners, either new to schooling or new to a subject matter. He urged that this factor be considered in developing testing programs and suggested a number of ways of looking at this problem. Many of the teachers in this study indicate that they are also beginning learners, or at least new to the subject matter of using test results. Using this model, test publishers would acknowledge the different levels of knowledge, of the test users by preparing materials for beginning users, as well as more advanced users. The development of the narrative test report is an acknowledgement of the need to reach teachers at all levels of expertise in test use. Further research in this area might focus on identifying different levels of test users in terms of knowledge, and experience and present them with the opportunity to make instructional decisions with test reports on several levels of complexity.

Messick's consideration of the environmental context in which to apply educational measurement is also relevant to this discussion. The social and environmental influences that shape individual teachers should also be considered in developing test reports and training in the use of test reports. Such factors as school organization, opportunities for assistance in test use, the availability of training sessions, and the accessibility of the materials that are prepared for teacher use, are all factors explored in the present study which affect teacher use of test results. Other factors such as peer influence and parental

influence may also be considered in this environmental context,

Thus, teacher use of test information may be a function not only of the measurement competence of the teacher but also of intrapersonal and environmental influences. Further research to identify these factors will bring more understanding to the process, and at the same time, may improve the linking of testing to instruction.

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APPENDIX A
Survey Materials

Georgia Department of Education
Office of Planning and Development
Twin Towers East
Atlanta, Georgia 30334

Charles McDaniel
State Superintendent of Schools

August 14, 1984

Werner Rogers
Associate State Superintendent

MEMORANDUM

TO: Selected System Test Coordinators
FROM: Stan Bernknopf *SB*
SUBJECT: Survey on Use of Eighth Grade CRT Results

We have contracted with Mrs. Helen DeCasper to conduct a study to determine the use of the eighth grade Criterion-Referenced Test results by ninth grade teachers. We will be sampling teachers of ninth grade English, reading and mathematics from throughout the State. Your help is needed in identifying those teachers in the schools which have been selected to be sampled.

Accompanying this letter is a sheet(s) which names a school in your district which has a ninth grade. We are asking you to list the names of all ninth grade teachers of English, reading and mathematics in that school on the sheet. Please note that there is a column for each subject, since we must be able to identify teachers by the subjects taught. If you have received more than one sheet, please fill one out for each identified school. Depending on the size of your system and the availability of this information, it may be necessary to forward the request to the school(s) indicated.

The names you provide us will be used to select the final sample of teachers to survey. It is very important that we have these names so that the teachers sampled will be representative of all of those ninth grade teachers from throughout the State.

This study is designed to help us improve the way we report test results, and as such, help improve the way results are used. Your assistance is extremely important. Please return the lists of teachers directly to Mrs. DeCasper by August 31. Her address is:

Mrs. Helen S. DeCasper
Curry Building
School of Education
UNC-Greensboro
Greensboro, North Carolina 27412
(919) 379-5100

Thank you for your cooperation.

SB:jsb

Figure A-1. Letter to test coordinators, stage-one
sampling.

**Georgia Department of Education
Office of Planning and Development
Twin Towers East
Atlanta, Georgia 30334**

Charles McDaniel
State Superintendent of Schools

November 1, 1984

Werner Rogers
Associate State Superintendent

MEMORANDUM

TO: Selected System Test Coordinators

FROM: Stan Bernknopf, Coordinator *SB*
Student Assessment Program

SUBJECT: Survey on Use of Eighth Grade CRT Results

A few weeks ago you provided Mrs. Helen DeCasper with names of ninth grade teachers of English, mathematics and reading in selected schools in your system. From those lists we have selected a random sample of 800 teachers throughout Georgia to survey their use of the eighth grade CRT results. Teachers from a school or schools in your system have been selected to be surveyed. Enclosed with this memorandum are envelopes addressed to those selected teachers. Please distribute these envelopes to the teachers, use the enclosed checklist to ensure that all surveys have been returned to you, and return the completed surveys to Mrs. DeCasper.

This packet contains the following materials:

1. A copy of the survey for your information.
2. Envelopes addressed to teachers in schools in your system.
3. A checklist of the names of the teachers who have received envelopes.
4. A postage-paid sticker addressed to Mrs. DeCasper to be attached to a manila envelope or other suitable mailing container in which you have placed all of the completed surveys from the teachers in your district.

The teachers will return their surveys to you in sealed envelopes with their names on them. Since we have assured them that their responses to the survey will be confidential, please do not open the envelopes. Simply check off on the checklist that the teacher has returned the survey. When all of the surveys have been returned to you, please mail them to Mrs. DeCasper.

This study is designed to help us improve the way we report test results, and, as such, help improve the way results are used. Your assistance is extremely important. Please return the completed surveys to Mrs. DeCasper by November 30.

Thank you for your cooperation.

SB:pa
Enclosures

Figure A-3. Letter to test coordinators included in survey
mailing.

Georgia Department of Education
Office of Planning and Development
Twin Towers East
Atlanta, Georgia 30334

Charles McDaniel
State Superintendent of Schools

November 1, 1984

Werner Rogers
Associate State Superintendent

MEMORANDUM

TO: Selected Ninth Grade Teachers of Reading, Mathematics or English

FROM: Stan Bernknopf, Coordinator, Student Assessment *SB*

SUBJECT: Survey on Use of Eighth Grade CRT Results

We have contracted with Mrs. Helen DeCasper to conduct a study to determine the use of the eighth grade Criterion-Referenced Test results by ninth grade teachers. You have been selected as one of 800 ninth grade teachers from throughout Georgia to participate in this study. The study is designed to help us improve the way we report test results, and, as such, help improve the way the results are used. Your assistance in this study is extremely important.

The envelope you have received contains the following items:

1. The survey to be completed by you.
2. An Examples sheet which shows samples of CRT test report forms and other related materials for you to refer to as needed as you complete the survey.
3. A small manila envelope with your name on it, addressed to your system test coordinator. Put the completed survey in this envelope, seal it, and return it to your system test coordinator.

Your responses will be completely confidential. You need not identify yourself or your school on the survey. Your survey will be sealed in the return envelope and will only be opened by Mrs. DeCasper. Your name on the outside of the envelope is only for the purpose of permitting your test coordinator to check off your name when your survey is received. When all of the surveys from teachers in your system have been received by your test coordinator, the coordinator will mail them unopened to Mrs. DeCasper.

The survey should take 20 to 30 minutes to complete. Your views are vital to the success of this study. Please plan to complete the survey within the next few days and return it to your system test coordinator by November 26.

We strongly feel that the heart of any testing program is the way in which the results are used. We also feel that if we can produce clear, understandable and pertinent reports for teachers and administrators this will encourage the better use of these reports.

Your cooperation in this study is essential for us to meet this goal. Thank you for your support.

SB:pa
Enclosures

Figure A-4. Letter to selected teachers.

System Test Coordinator

Check List

Test Coordinators: Please use this form to check off teachers' names as they return the survey. Follow up those teachers not returning survey promptly. Thank you.

Reading/Lanugage Arts Teachers Receiving Survey

Jerry A. Carter, Appling County High, Appling County

John Stephens, Appling County High, Appling County

Marvin W. Stephens, Appling County High, Appling County

Mathematics/Remedial Mathematics Teachers Receiving Survey

Gail Carter, Appling County High, Appling County

Judy Harbison, Appling County High, Appling County

Betty Isom, Appling County High, Appling County

Marianne Rigdon, Appling County High, Appling County

Figure A-5. Check list of teachers sent survey items.

SURVEY OF TESTING PRACTICES FOR TEACHERS OF GRADE 9 STUDENTS

This survey examines the testing practices of teachers of 9th grade students. Your responses are important in helping to improve the Georgia State Testing Program for Grade 8. All responses are anonymous. No respondent will be identifiable. The survey should take about 20 minutes. Thank you for your assistance.

DIRECTIONS: Please fill in the blanks, or circle or check the appropriate response.

1. Sex M F
2. Age _____ (Years)
3. Grade(s) taught 1984-85 (CIRCLE all that apply) 7 8 9 10 11 12
4. My highest degree/certificate is: (CHECK one) _____ Bachelors _____ Masters _____ Sixth-Year _____ Doctorate
5. Year received _____
6. Number of hours earned in undergraduate or graduate courses in testing, educational research or statistics: _____ (Hours)
7. Number of years you have teaching _____.
8. Courses taught this year (please CHECK all that apply):
 Reading Remedial Mathematics Others _____
 English Mathematics _____
9. Type of school (please CHECK all that apply):
 7 - 9 8 - 9 8 - 12 9 - 12
 Other Urban Suburban Rural

INFORMATION SOURCES AND DECISIONS

10. Below are some decisions made in schools. Please CIRCLE yes or no for all individuals in your school or district who make these decisions:

	About the curriculum to teach		About assigning students to classes		About accelerating students		About remediating students	
I decide	YES	NO	YES	NO	YES	NO	YES	NO
Teachers' Committees	YES	NO	YES	NO	YES	NO	YES	NO
Counselors	YES	NO	YES	NO	YES	NO	YES	NO
Principals	YES	NO	YES	NO	YES	NO	YES	NO
Curriculum Specialists	YES	NO	YES	NO	YES	NO	YES	NO
Others (List) _____								

11. What sources of information are used to assign students to classes? Please CHECK all that apply:

- Previous grades
- Teachers' Recommendations
- Counselors' Recommendations
- A score of 191/Reading or 190/Mathematics on the 8th grade CRT.
- Other scores on the State Criterion Referenced Tests. Describe how used: _____
- Scores on other tests. Please list the tests below: _____

DIRECTIONS: Below are some decision situations. For each situation CIRCLE the number that indicates the importance of each source of information in helping you make a decision.

	Not Important	Slightly Important	Important	Very Important	Crucial
12. Planning instruction at the beginning of the school year:					
a. Other teachers' reports, comments and grades	1	2	3	4	5
b. Students' criterion-referenced test scores	1	2	3	4	5
c. My previous experience teaching	1	2	3	4	5
13. Grouping students within the class:					
a. Other teachers' reports, comments and grades	1	2	3	4	5
b. Students' criterion-referenced test scores	1	2	3	4	5
c. Results of placement tests developed for curriculum use	1	2	3	4	5
d. Results of tests I made up	1	2	3	4	5
e. My own observations of students' classwork	1	2	3	4	5
f. Check here if you do not group students in class _____					
14. Decisions to provide for remediation or acceleration:					
a. Other teachers' reports, comments or grades	1	2	3	4	5
b. Students' criterion-referenced test scores	1	2	3	4	5
c. Results of placement tests developed for curriculum use	1	2	3	4	5
d. Results of tests I make up	1	2	3	4	5
e. My own observations of students' class work	1	2	3	4	5
f. Check here if you do not make such recommendations _____					

Figure A-6. Survey instrument.

Assistance with Test Use

15. Would you like assistance or instruction related to testing and using test results in any of the areas listed below? Have you received assistance in any of these areas? **CIRCLE YES OR NO** in both columns.

	I would like Assistance		Assistance is Provided	
	YES	NO	YES	NO
a. Administering tests	YES	NO	YES	NO
b. Analyzing test results	YES	NO	YES	NO
c. Interpreting test results to students	YES	NO	YES	NO
d. Interpreting test results to parents	YES	NO	YES	NO
e. Using test results for placement	YES	NO	YES	NO
f. Using test results for instructional decisions	YES	NO	YES	NO
g. Using test results for grouping in my class	YES	NO	YES	NO
h. Determining the relationship between the test objectives and the topics in the curriculum guides.	YES	NO	YES	NO
i. Determining the relationship between the test objectives and the text book topics	YES	NO	YES	NO

COMMENTS _____

16. How many hours have you spent *in the last two years* receiving assistance or instruction related to using test results? Such assistance, for example, could be inservice sessions, committees, and staff meetings. Please **CHECK** the appropriate number of hours:

0 hours 4 - 6 hours 11 - 15 hours
 1 - 3 hours 7 - 10 hours 16 or more hours

Criterion Referenced Test Results

17. The State provides several report forms and interpretive materials for the Criterion-Referenced Tests. Indicate below if the report is sent to you, is available for your use, or would be helpful to you. Please **CIRCLE** the appropriate response. (Refer to the separate sheets enclosed, *Examples of Test Report Forms*, for examples of each form).

	Sent to me		Available for my use		Would be helpful to me	
	YES	NO	YES	NO	YES	NO
Individual Student Form	YES	NO	YES	NO	YES	NO
Student Achievement Roster	YES	NO	YES	NO	YES	NO
Summary of Student Reports	YES	NO	YES	NO	YES	NO
Student Achievement Labels	YES	NO	YES	NO	YES	NO
Item Analysis Forms	YES	NO	YES	NO	YES	NO
Teacher's Interpretive Guide (four page folder)	YES	NO	YES	NO	YES	NO
Objectives & Assessment Characteristics (about 50 pages mimeographed)	YES	NO	YES	NO	YES	NO

Please describe any other type of report that would be useful _____

18. Does the State report the Criterion-Referenced Test scores in a way that facilitates your use of the information?

a. Individual Student Report Form for Reading or Mathematics

	Useful
1. Scale Score	YES NO
2. Cut-off Scores of 191/reading, 190/mathematics	YES NO
3. Listing of each objective	YES NO
4. Number of items needed to pass objective	YES NO
5. Number of items student answered correctly	YES NO
6. Whether student achieved the objective	YES NO
7. Listing of areas for additional instruction	YES NO

Comments _____

b. Individual Student Label

	Useful
1. Skill area into which objectives are grouped	YES NO
2. Indicating objective was achieved (*)	YES NO
3. Indicating objective was not achieved (-)	YES NO
4. Indicating objective was not attempted (N)	YES NO

Comments _____

The Use of CRT Test Results for Decision Making

DIRECTIONS: The State provides several report forms and publications for the 8th grade CRT. Indicate below how important each of these forms is to you for particular types of decisions you make. Look at the *Examples* pages for examples of the forms. Please **CIRCLE** the appropriate response. **IF A PARTICULAR REPORT FORM IS NOT AVAILABLE TO YOU, PLEASE GO ON TO THE NEXT REPORT FORM.**

	Not Important	Slightly Important	Important	Very Important	Crucial
19. The <i>Individual Student Report Form</i> is important for making the following instructional decisions:					
a. Planning at the beginning of the school year	1	2	3	4	5
b. Grouping or placement	1	2	3	4	5
c. Remediation or acceleration	1	2	3	4	5
Other Use _____					
20. The <i>Student Achievement Roster</i> is important for making these instructional decisions:					
a. Planning at the beginning of the school year	1	2	3	4	5
b. Grouping or placement	1	2	3	4	5
c. Remediation or acceleration	1	2	3	4	5
Other Use _____					
21. The <i>Summary of Student Reports</i> is important for making these instructional decisions:					
a. Planning at the beginning of the school year	1	2	3	4	5
b. Grouping or placement	1	2	3	4	5
c. Remediation or acceleration	1	2	3	4	5
Other Use _____					
22. The <i>Student Achievement Labels</i> are important for making these instructional decisions:					
a. Planning at the beginning of the school year	1	2	3	4	5
b. Grouping or placement	1	2	3	4	5
c. Remediation or acceleration	1	2	3	4	5
Other Use _____					
23. The <i>Teacher's Interpretive Guide for Student Reports</i> is important for making these instructional decisions:					
a. Planning at the beginning of the school year	1	2	3	4	5
b. Grouping or placement	1	2	3	4	5
c. Remediation or acceleration	1	2	3	4	5
Other Use _____					
24. The <i>Objective and Assessment Characteristics</i> are important for making these instructional decisions:					
a. Planning at the beginning of the school year	1	2	3	4	5
b. Grouping or placement	1	2	3	4	5
c. Remediation or acceleration	1	2	3	4	5
Other Use _____					
25. The <i>Item Analysis Form</i> is important for making these instructional decisions:					
a. Planning at the beginning of the school year	1	2	3	4	5
b. Grouping or placement	1	2	3	4	5
c. Remediation or acceleration	1	2	3	4	5
Other Use _____					

Alternative Individual Student Report Forms

DIRECTIONS: The following questions relate to the kind of information included on a report form for the CRT. Please answer each question regardless of the subject you teach. We are concerned with your evaluation of the *type of information* included on the report form, not the specific subject matter.

Below are examples of reports of a student's performance for Objective 2 of the 8th grade CRT Reading test. Please read each report.

Objective 2: Recognizes explicitly stated main ideas, details, sequences of events and cause and effect relationships.

Report A. 16 or more of 18 items are needed to achieve this objective. 12 were answered correctly. You have not achieved this objective.

Report B. 16 or more of 18 items are needed to achieve this objective. 12 were answered correctly. You have not achieved this objective. You may need help developing a concept of cause and effect. In addition, you may need to know more about recognizing relational words such as *because* or *since* that signal cause and effect.

Report C. 16 or more of 18 items are needed to achieve this objective. 12 were answered correctly. You have not achieved this objective. You may need help developing a concept of cause and effect. In addition, you may need to know more about recognizing relational words such as *because* or *since* that signal cause and effect.

Teachers: Refer to pages 10-11 of *Objectives and Assessment Characteristics* for examples for Objective 2.

26. Consider Reports A, B, and C. Give the ranking of 1, 2 or 3 for overall usefulness of each report to you:

- 1 = Most Useful
- 2 = Next Most Useful
- 3 = Least Useful

Report Report A Report B Report C	Ranking _____ _____ _____
--	------------------------------------

27. Consider Reports A, B, and C again. How useful is each form for the following purposes? **CIRCLE** the number to indicate the usefulness of the report.

	Not Useful	Slightly Useful	Useful	Very Useful	Crucial
Report A					
a. For analyzing test results	1	2	3	4	5
b. For interpreting test results to students	1	2	3	4	5
c. For interpreting test results to parents	1	2	3	4	5
d. For grouping students in class	1	2	3	4	5
e. For decisions about remediation	1	2	3	4	5
f. For decisions about acceleration	1	2	3	4	5
g. For planning instruction	1	2	3	4	5
h. The overall usefulness of the report	1	2	3	4	5
Report B					
a. For analyzing test results	1	2	3	4	5
b. For interpreting test results to students	1	2	3	4	5
c. For interpreting test results to parents	1	2	3	4	5
d. For grouping students in class	1	2	3	4	5
e. For decisions about remediation	1	2	3	4	5
f. For decisions about acceleration	1	2	3	4	5
g. For planning instruction	1	2	3	4	5
h. The overall usefulness of the report	1	2	3	4	5
Report C					
a. For analyzing test results	1	2	3	4	5
b. For interpreting test results to students	1	2	3	4	5
c. For interpreting test results to parents	1	2	3	4	5
d. For grouping students in class	1	2	3	4	5
e. For decisions about remediation	1	2	3	4	5
f. For decisions about acceleration	1	2	3	4	5
g. For planning instruction	1	2	3	4	5
h. The overall usefulness of the report	1	2	3	4	5

Alternative Summary of Student Reports Form

The Spring Eighth Grade CRT testing provides a Summary of Student Reports for each school. It lists the students not achieving or not attempting each objective for each of the tests (see the Examples sheet for a sample of this form).

The following question asks you to consider whether a similar report would be helpful to you as a grade 9 teacher.

Remember, please answer the question regardless of the subject you teach. We are interested in your evaluation of the type of information included on the report form, not the specific subject matter.

26. Below is a report form that summarizes the performance of students in a class on the CRT in Mathematics. Please examine the report.

SUMMARY OF STUDENT REPORTS FOR MRS. GREEN'S PERIOD 1 CLASS			
GRADE 8 MATHEMATICS CRT SCORES			
OBJECTIVE 1 — Translates forms of rational numbers			
HAS NOT ACHIEVED OBJECTIVE			
Jenny B. Andrews	Mark W. Butler	Teresa F. Lewis	Carol D. Scott
John P. Brown	Wendy L. Davis	Gene Morris	Earl Turner
HAS NOT ATTEMPTED OBJECTIVE			
Robert P. Brooks	Susan T. Payne		

Rate the usefulness of such a form to you, if one were prepared for each of your ninth grade Reading/Language Arts or Mathematics courses at the beginning of the school year. *CIRCLE* the appropriate rating of usefulness.

1 2 3 4 5
 Not Useful Slightly Useful Useful Very Useful Crucial

Review questions 26, 27, 28 above and use the space below to comment about the content and design of the CRT test report forms. What other information, organization of scores, and so on, would be useful to you?

Thank you for your help with this study.

Please place completed survey in the small manila envelope, seal it and mail to your system test coordinator. Thank you.

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EXAMPLES OF CRT TEST REPORT FORMS



**GEORGIA CRITERION-REFERENCED TESTS
READING REPORT - GRADE 8**

NAME LYNETTE S. STUDENT
SCHOOL NAME ANYTOWN MIDDLE
SCHOOL CODE 1231111

DATE TESTED: SPR 1984
PROCESS NO: 08 001 3774
0113

On a scale of 100 to 300, your total test score in reading is 245. A total score of 187 or less generally indicates a need for additional efforts to achieve mastery of skills that will be measured on the Basic Skills Tests administered in grade 10 and required for high school graduation.

Objective 1: Distinguishes between fact and opinion.
5 of 7 items are needed to achieve this objective.
7 were answered correctly.
You have achieved this objective.

Objective 6: Interprets figurative language.
4 of 7 items are needed to achieve this objective.
6 were answered correctly.
You have achieved this objective.

Individual Student Report Form



GEORGIA CRITERION-REFERENCED TESTS

STUDENT ACHIEVEMENT ROSTER FOR ANYTOWN MIDDLE 1231111 SPRING 1984 PAGE 1
GRADE 8 08 001 3560

STUDENT NAME	OBJECTIVE NUMBER																					TOTAL ACHIEVED	TOTAL SCALE SCORE
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
DEBRA L. STUDENT	READING	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	200
	MATHEMATICS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	192
	CAREER FORM 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6	NA
DENAYNE R. STUDENT	READING	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	5	200
	MATHEMATICS	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	8	202

Student Achievement Roster



GEORGIA CRITERION-REFERENCED TESTS

SUMMARY OF STUDENT REPORTS FOR ANYTOWN MIDDLE 1231111 SPRING 1984 PAGE 26
GRADE 8 CAREER DEVELOPMENT 08 001 3560

OBJECTIVE 9 - Recognizes that different occupations require different kinds of educational preparation, and there may be alternative routes to the same occupation.

HAS NOT ACHIEVED OBJECTIVE

ANDY W. STUDENT
ANGELA M. STUDENT
BARRY R. STUDENT
BRIAN P. STUDENT
CARLA H. STUDENT

CYNTHIA D. STUDENT
DARRELL E. STUDENT
EDWARD L. STUDENT
FRANCE L. STUDENT
GARY C. STUDENT

JOHN R. STUDENT
LAURA A. STUDENT
LESTER M. STUDENT
LISA M. STUDENT
LOUISE H. STUDENT

NANCY E. STUDENT
NICOLE J. STUDENT
RITA M. STUDENT
ROBERT L. STUDENT
SHARON D. STUDENT

Summary of Student Reports

GEORGIA CRITERION-REFERENCED TESTS
NAME: MATTHEW J. STUDENT TEST DATE: SPRING 84 GRADE 8

OBJECTIVE	SCORE	SCALE SCORE
1	6	219
2	6	
3	6	
4	6	
5	6	
6	6	
7	6	
8	6	
9	6	
10	6	
11	6	
12	6	
13	6	
14	6	
15	6	
16	6	
17	6	
18	6	
19	6	
20	6	
TOTAL	120	282

GEORGIA CRITERION-REFERENCED TESTS
NAME: CAROL K. STUDENT TEST DATE: SPRING 84 GRADE 8

OBJECTIVE	SCORE	SCALE SCORE
1	6	19
2	6	
3	6	
4	6	
5	6	
6	6	
7	6	
8	6	
9	6	
10	6	
11	6	
12	6	
13	6	
14	6	
15	6	
16	6	
17	6	
18	6	
19	6	
20	6	
TOTAL	120	7

Student Achievement Labels
Figure A-7. Examples of CRT report forms.

TEST ITEM ANALYSIS FOR: ANYTONE MIDDLE **SPRING 1984**
GRADE 8 READING **Total Tested 19**
Skill Area: Literal Comprehension

Item	Response 1		Response 2		Response 3		Response 4		Other #	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
35	1	5.3%	10	52.6%	3	15.8%	5	26.3%	0	0.0%
36	1	5.3%	2	10.5%	10	52.6%	6	31.6%	0	0.0%
47	1	5.3%	3	15.8%	1	5.3%	14	73.7%	0	0.0%
57	13	68.4%	2	10.5%	3	15.8%	1	5.3%	0	0.0%
66	2	10.5%	1	5.3%	13	68.4%	3	15.8%	0	0.0%
90	1	5.3%	3	15.8%	1	5.3%	14	73.7%	0	0.0%
118	2	10.5%	12	63.2%	2	10.5%	3	15.8%	0	0.0%

Item	Response 1		Response 2		Response 3		Response 4		Other #	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1	0	0.0%	19	100.0%	0	0.0%	0	0.0%	0	0.0%
5	0	0.0%	8	39.2%	14	73.7%	0	0.0%	0	0.0%
7	0	0.0%	1	5.3%	18	78.9%	3	15.8%	0	0.0%
11	0	0.0%	2	10.5%	17	89.5%	0	0.0%	0	0.0%
32	12	63.2%	2	10.5%	2	10.5%	1	5.3%	0	0.0%
41	2	10.5%	0	0.0%	17	89.5%	0	0.0%	0	0.0%
42	0	0.0%	0	0.0%	2	10.5%	17	89.5%	0	0.0%
43	2	10.5%	18	84.2%	1	5.3%	0	0.0%	0	0.0%
44	4	21.1%	14	73.7%	0	0.0%	1	5.3%	0	0.0%
48	11	57.9%	2	10.5%	2	10.5%	4	21.1%	0	0.0%
48	8	39.2%	0	0.0%	19	78.9%	2	10.5%	0	0.0%
55	0	0.0%	13	68.4%	1	5.3%	0	0.0%	0	0.0%
62	0	0.0%	2	10.5%	17	89.5%	0	0.0%	0	0.0%
84	3	15.8%	2	10.5%	11	57.9%	3	15.8%	0	0.0%
88	0	0.0%	0	0.0%	17	89.5%	2	10.5%	0	0.0%
88	0	0.0%	0	0.0%	11	57.9%	1	5.3%	0	0.0%
113	2	10.5%	8	39.2%	0	0.0%	8	31.6%	0	0.0%
118	12	63.2%	1	5.3%	0	0.0%	2	10.5%	0	0.0%
122	14	73.7%	1	5.3%	2	10.5%	2	10.5%	0	0.0%

Test Item Analysis Form



**Teacher's Interpretive Guide
for Student Reports**

**Grade 8
1983**

GEORGIA CRITERION-REFERENCED TESTS

GENERAL INTRODUCTION

The Georgia criterion-referenced tests have been developed to measure basic skills which Georgia educators have identified as being essential for all students to acquire in order to make academic progress. In addition, the results of tests given to eighth graders are designed to identify students who may need additional learning experiences in the basic skills before taking the High School Basic Skills Tests which are given in grade 10 and which are required for high school graduation.

INDIVIDUAL STUDENT REPORTS

Individual reports for each student tested are provided as follows:

STUDENT LABELS

One (1) label is provided for each student tested. The label is to become part of the student's cumulative school record. Test data is summarized to report the following for each objective in all three tests (Reading, Mathematics, and Career Development):

Teacher's Interpretive Guide

8TH GRADE MATHEMATICS OBJECTIVES

OBJECTIVE 3: THE STUDENT SELECTS CUSTOMARY OR METRIC UNITS TO MEASURE LENGTH, AREA, VOLUME, WEIGHT, TIME, AND TEMPERATURE IN THE CONTEXT OF ACADEMIC TASKS, EVERYDAY TASKS, OR EMPLOYMENT ACTIVITIES.
(Recommended addition; related BST indicator: Math 3)

Assessment Characteristics:

This objective involves choosing the unit that applies to a specific measurement problem, such as selecting the appropriate type of unit or size of unit. It is not suitable to use conversions within or between systems. Appropriate units and scales include grams, meters, liters, Celsius, inches, feet, yards, miles, ounces, pounds, pints, quarts, gallons, Fahrenheit, seconds, minutes, hours, days, weeks, or months. The prefixes milli-, centi-, and kilo- are appropriate. Volume items may include cubic measures or measures of capacity.

Example(s) for Objective 3:

Which unit of measurement should be used to weigh a penny?

- A. kilogram
- B. kiloliter
- C. liter
- D. gram

Objectives and Assessment Characteristics



Georgia Department of Education
Office of Planning and Development
Twin Towers East
Atlanta, Georgia 30334

Charles McDaniel
State Superintendent of Schools

Werner Rogers
Associate State Superintendent

January 8, 1985

MEMORANDUM

TO: Selected System Test Coordinators

FROM: Stan Bernknopf, Coordinator
Student Assessment Program

SUBJECT: Reminder to return Surveys on Use of Eighth Grade CRT Results

A few weeks ago you were mailed Surveys on the Use of Eighth Grade CRT Results, and were asked to distribute them to a list of selected ninth grade English, reading and mathematics teachers in your school system.

This study is designed to help us improve the way we report test results, and, as such, help improve the way results are used. Mrs. Helen DeCasper is conducting the study for us.

The school systems and teachers asked to participate in this study were selected in such a way as to be representative of school systems and ninth grade English, reading and mathematics teachers throughout the State. For this reason it is important to have responses from all school systems and from as many teachers as possible.

Please return the completed surveys to Mrs. DeCasper as soon as possible so that we may have a representative sample of teachers' views. Her address is:

Mrs. Helen DeCasper
School of Education
Curry Building
UNC-Greensboro
Greensboro, NC 27412

Thank you for your cooperation.

Figure A-7. Follow-up letter.

APPENDIX B

Responses to Open-Ended Questions

Summary of Written Responses

To Open-Ended Questions

Question 15: Would you like assistance or instruction related to testing and using tests results in any of the areas listed below? Have you received assistance in any of these areas?

1. The counselors, principals and test coordinators offer all of the help needed with scores. 12 responses

2. I feel competent to make these decisions myself. 2 responses

3. There is little assistance in analyzing test results. 2 responses

4. Help is needed in h and i (determining the relationship between test objectives and curriculum topics and test objectives and text book topics. 4 responses

5. The results of the eighth grade CRT are only used by eighth grade counselors to schedule ninth grade classes. 4 responses.

Question 18: Does the State report the Criterion-Referenced Test scores in a way that facilitates your use of the information?

1. I have found the reports to be very helpful. 2 responses

2. The information is helpful, but I can't find the time to get to the information. 2 responses

3. I don't look at these unless I have a real problem. 2 responses

4. These are sent to the counselors, I must go through all of the permanent records to find them. 4 responses

5. A grade equivalent score would facilitate parents'

understanding of the score. 1 response

6. Use a scale score similar to the BST. 1 response

Questions 26 and 27: Ranking and rating of Reports A, B, and C:

1. Report C is the most useful of the three reports. 26 responses
2. Report C would be more useful if it provided information about linking it to text books used. 3 responses
3. The Alternative Summary of Student Report forms would be helpful because it tells at a glance which students need remediation in which objective. 9 responses.
4. The Alternative Summary of Student Report Forms would be helpful at the beginning of the quarter. 7 responses

General Comments and Concerns:

1. The content and format of the current CRT forms is useful. 16 responses
2. Having reports sent directly to me, and more instruction in interpreting the scores would be useful. 4 responses
3. Our high school teachers really need to be more knowledgeable about the CRT. We need more training in its use. 3 responses
4. It might be helpful to know the areas in which a student has excelled, also the survey mentions acceleration, little seems to be done in this area with the CRTs. 2 responses
5. There is nothing wrong with the CRT. The classroom teacher just doesn't have time to concentrate on its development. 1 response
6. Overall, the reports are outstanding, we teachers need help in using the results. 1 response
7. Ninth grade teachers are not provided this information -- 8th

grade teachers are given the information in the spring. Ninth grade teachers are given a general overview of how the school did in comparison with other schools in the county. 1 response

8. We don't have an eighth grade in our school. Most placement decisions for ninth graders are made before they reach us. We sometimes use CRT results to help decide if a student is misplaced and to place him properly.

APPENDIX C
Tables of Data

Table C-1

Chi-Square of Use of Scale Score by Setting of School

Use Scale Score	Setting of School		
	Urban	Suburban	Rural
Yes	77	98	124
No	64	60	138

Note. $\chi^2(2, N = 561) = 8.683, p = .013.$

Table C-2

Chi-Square of Use of Scale Score by Hours of Statistics

Use Scale Score	Hours of Statistics			
	0-3	4-9	10-18	19 or More
Yes	79	62	101	62
No	66	52	98	48

Note. $\chi^2(3, N = 568) = 1.05, p = .787.$

Table C-3

Chi-Square of Use of Scale Score by Grades in School

Use Scale Score	Grades in the School	
	8-9 Together	8-9 Not Together
Yes	141	162
No	75	189

Note. $\chi^2(1, N = 567) = 18.892, p = .000.$

Table C-4

Chi-Square of Use of Scale Score by Teach Language Arts and/or Reading

Use Scale Score	Courses Taught		
	Reading	Language Arts	Both
Yes	17	104	44
No	15	98	10

Note. $\chi^2(2, N = 288) = 15.924, p = .0003.$

Table C-5

Chi-Square of Use of Scale Score by Teach Math. or Remedial Math.

Use Scale Score	Courses Taught		
	Remedial Mathematics	Mathematics	Both
Yes	25	83	42
No	7	105	30

Note. $\chi^2(2, N = 292) = 14.491, p = .0007.$

Table C-6

Chi-Square of Use of Scale Score by Hours of Test Use Instruction

Use Scale Score	Hours of Instruction				
	0	1-3	4-6	7-10	Over 10
Yes	90	112	54	26	21
No	114	95	30	14	11

Note. $\chi^2(4, N = 567) = 15.191, p = .0043.$

Table C-7

Information Sources Important for Planning Instruction

Sources of Information	Rating											
	Not Important		Slightly Important		Important		Very Important		Crucial		Not Available	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
Teachers' Reports	69	12.1	146	25.7	212	37.3	110	19.4	29	5.1	2	.4
CRT Scores	59	10.3	84	14.7	248	43.4	127	22.2	47	8.2	5	.9
Experience	11	1.9	16	2.8	120	21.0	270	47.2	153	26.8	1	.2

Table C-8

Information Sources Important for Grouping in Class

Sources of Information	Rating											
	Not Important		Slightly Important		Very Important		Crucial		Do Not Group			
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%		
Teachers' Reports	72	12.6	129	22.6	136	24.0	64	11.3	17	3.0	148	25.9
CRT Scores	35	6.1	79	14.0	163	28.5	104	18.4	34	5.9	149	26.4
Curriculum Tests	51	8.9	60	10.5	155	27.4	112	19.8	39	6.9	149	26.3
My Tests	25	4.4	43	7.5	151	26.7	164	29.0	34	5.9	149	26.3
My Observations	8	1.4	14	2.4	79	13.8	198	35.2	116	20.6	148	26.3

Table C-9

Information Sources Important for Remediation or Acceleration

Sources of Information	Rating											
	Not Important		Slightly Important		Very Important		Crucial		Do Not Remed/Accel			
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%		
Teachers' Reports	45	7.9	119	21.1	200	35.5	119	21.1	37	5.6	44	7.8
CRT Scores	29	5.1	53	11.2	193	34.2	164	29.1	71	12.6	44	7.8
Curriculum Tests	53	9.3	62	11.0	180	31.9	167	29.6	57	10.1	45	8.0
My Tests	23	4.1	41	7.2	185	32.6	213	37.6	60	10.6	45	7.9
My Observations	4	.7	13	2.3	109	19.4	253	44.9	141	25.0	43	7.6

Table C-10

Chi-Square of Need Assistance Administering TestsBy I Teach Mathematics

Need Assistance	Subject Taught		
	Remedial Mathematics	Mathematics	Both
Yes	8	48	22
No	23	137	47

Note. $\chi^2(2, N = 285) = 0.934, p = .6268.$

Table C-11

Chi-Square of Need Assistance Administering TestsBy I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	11	81	18
No	21	118	37

Note. $\chi^2(2, N = 286) = 1.412, p = .4935.$

Table C-12

Chi-Square of Need Assistance Administering Tests
By Grades in School

Grades in School		
Need Assistance	8 and 9 Together	8 and 9 Not Together
Yes	65	119
No	146	228

Note. $\chi^2(1, N = 558) = 0.573, p = .4490.$

Table C-13

Chi-Square of Need Assistance Analyzing Test Results
By I Teach Mathematics

Subject Taught			
Need Assistance	Remedial Mathematics	Mathematics	Both
Yes	12	91	42
No	19	94	27

Note. $\chi^2(2, N = 285) = 4.803, p = .0905.$

Table C-14

Chi-Square of Need Assistance Analyzing Test ResultsBy I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	18	132	24
No	14	67	31

Note. $\chi^2(2, N = 286) = 9.634, p = .0081.$

Table C-15

Chi-Square of Need Assistance Analyzing Test ResultsBy Grades in School

Need Assistance	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	119	196
No	93	150

Note. $\chi^2(1, N = 558) = 0.0009, p = .9751.$

Table C-16

Chi-Square of Need Assistance Interpreting Test Results to Students
By I Teach Mathematics

Need Assistance	Subject Taught		
	Remedial Mathematics	Mathematics	Both
Yes	11	88	37
No	20	98	32

Note. $\chi^2(2, N = 285) = 2.834, p = .2424.$

Table C-17

Chi-Square of Need Assistance Interpreting Test Results to Students
By I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	19	117	22
No	13	81	32

Note. $\chi^2(2, N = 286) = 5.992, p = .0500.$

Table C-18

Chi-Square of Need Assistance Interpreting Test Results to Students
By Grades in School

Grades in School		
Need Assistance	8 and 9 Together	8 and 9 Not Together
Yes	108	181
No	104	164

Note. $\chi^2(1, N = 558) = 0.6831, p = .7938.$

Table C-19

Chi-Square of Need Assistance Interpreting Test Results to Parents
By I Teach Mathematics

Subject Taught			
Need Assistance	Remedial Mathematics	Mathematics	Both
Yes	15	89	35
No	16	97	34

Note. $\chi^2(2, N = 285) = 0.167, p = .9198.$

Table C-20

Chi-Square of Need Assistance Interpreting Test Results to Students
By I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	21	116	29
No	11	82	26

Note. $\chi^2(2, N = 286) = 1.4146, p = .4930.$

Table C-21

Chi-Square of Need Assistance Interpreting Test Results to Parents
By Grades in School

Need Assistance	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	110	187
No	102	159

Note. $\chi^2(1, N = 558) = 0.1671, p = .6827.$

Table C-22

Chi-Square of Need Assistance Using Test Results for PlacementBy I Teach Mathematics

Need Assistance	Subject Taught		
	Remedial Mathematics	Mathematics	Both
Yes	13	100	36
No	18	86	33

Note. $\chi^2(2, N = 285) = 1.489, p = .4748.$

Table C-23

Chi-Square of Need Assistance Using Test Results for PlacementBy I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	15	127	25
No	17	70	30

Note. $\chi^2(2, N = 286) = 8.533, p = .0140.$

Table C-24

Chi-Square of Need Assistance Using Test Results for Placement
By Grades in School

Grades in School		
Need Assistance	8 and 9 Together	8 and 9 Not Together
Yes	110	201
No	102	144

Note. $\chi^2(1, N = 558) = 1.9127, p = .1667.$

Table C-25

Chi-Square of Need Assistance Using Test Results for Instruction
By I Teach Mathematics

Subject Taught			
Need Assistance	Remedial Mathematics	Mathematics	Both
Yes	10	95	35
No	21	91	35

Note. $\chi^2(2, N = 285) = 3.820, p = .1480.$

Table C-26

Chi-Square of Need Assistance Using Test Results for InstructionBy I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	11	126	22
No	21	73	33

Note. $\chi^2(2, N = 286) = 16.061, p = .0003.$

Table C-27

Chi-Square of Need Assistance Using Test Results for InstructionBy Grades in School

Need Assistance	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	106	189
No	108	157

Note. $\chi^2(1, N = 558) = 1.1783, p = .2777.$

Table C-28

Chi-Square of Need Assistance Using Test Results for Grouping
By I Teach Mathematics

Need Assistance	Subject Taught		
	Remedial Mathematics	Mathematics	Both
Yes	15	70	29
No	16	118	41

Note. $\chi^2(2, N = 285) = 1.537, p = .4635.$

Table C-29

Chi-Square of Need Assistance Using Test Results for Grouping
By I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	15	95	16
No	17	104	39

Note. $\chi^2(2, N = 286) = 6.195, p = .0451.$

Table C-30

Chi-Square of Need Assistance Using Test Results for Grouping
By Grades in School

Need Assistance	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	82	151
No	131	198

Note. $\chi^2(1, N = 558) = 1.0570, p = .3053.$

Table C-31

Chi-Square of Need Assistance Determining Relationship Between Test
and Curriculum Guide By I Teach Mathematics

Need Assistance	Subject Taught		
	Remedial Mathematics	Mathematics	Both
Yes	15	100	39
No	16	85	31

Note. $\chi^2(2, N = 285) = 0.4732, p = .7893.$

Table C-32

Chi-Square of Need Assistance Determining Relationship Between Test
and Curriculum Guide By I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	19	120	27
No	13	80	28

Note. $\chi^2(2, N = 286) = 2.14, p = .3430.$

Table C-33

Chi-Square of Need Assistance Determining Relationship between Test
And Curriculum Guide By Grades in School

Need Assistance	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	119	194
No	94	153

Note. $\chi^2(1, N = 558) = 0.0000, p = 1.0000.$

Table C-34

Chi-Square of Need Assistance Determining Relationship Between Test
and Text Book By I Teach Mathematics

Need Assistance	Subject Taught		
	Remedial Mathematics	Mathematics	Both
Yes	18	88	41
No	13	99	29

Note. $\chi^2(2, N = 285) = 3.3871, p = .1839.$

Table C-35

Chi-Square of Need Assistance Determining Relationship Between Test
and Text Book By I Teach Language Arts and/or Reading

Need Assistance	Subject Taught		
	Reading	Language Arts	Both
Yes	19	115	28
No	13	86	27

Note. $\chi^2(2, N = 286) = 0.8403, p = .6569.$

Table C-36

Chi-Square of Need Assistance Determining Relationship between Test
And Text Book By Grades in School

Need Assistance	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	115	188
No	99	161

Note. $\chi^2(1, N = 563) = 0.0000, p = 1.0000.$

Table C-37

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports Sent to Me by Eighth Grade in School

Forms Sent

Grades	Yes	No
8-9 Together	53	162
8-9 Separate	54	298

Note. $\chi^2(1, N=567) = 6.961, p = .0083.$

Table C-38

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports Sent to Me by I Teach Reading

Forms Sent

Reading	Yes	No
Yes	20	66
No	88	393

Note. $\chi^2(1, N=567) = 0.8648, p = .3524.$

Table C-39

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports Sent to Me by I Teach Language Arts

Forms Sent

Language Arts	Yes	No
Yes	48	207
No	60	252

Note. $\chi^2(1, N=567) = 0.00024, p = .9877.$

Table C-40

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports Sent to Me by I Teach Remedial Mathematics

Forms Sent

Remedial Mathematics	Yes	No
Yes	24	79
No	380	84

Note. $\chi^2(1, N=567) = 1.15887, p = .2817.$

Table C-41

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports Sent to Me by I Teach Mathematics

Forms Sent		
Mathematics	Yes	No
Yes	42	219
No	66	240

Note. $\chi^2(1, N=567) = 2.39628, p = .1216.$

Table C-42

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports Sent to Me by School Setting

Forms Sent		
School Setting	Yes	No
Urban	26	112
Suburban	31	127
Rural	48	217

Note. $\chi^2(2, N=561) = 0.14962, p = .9279.$

Table C-43

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary
Reports Sent to Me by Hours of Statistics, Measurement

Hours	Forms Sent	
	Yes	No
0-3 hours	28	117
4-9 hours	18	95
10-18 hours	41	159
19 or more hours	21	89

Note. $\chi^2(3, N=561) = 0.99380, p = .8028.$

Table C-44

Chi-Square of Clusters of Student Labels, Interpretive Guide,
Obj/Assessment Reports Sent to Me by Eighth Grade in School

Forms Sent

Grades	Yes	No
8-9 Together	32	178
8-9 Separate	27	320

Note. $\chi^2(1, N=557) = 6.914, p = .0085.$

Table C-45

Chi-Square of Clusters of Student Labels, Interpretive Guide,
Obj/Assessment Reports Sent to Me by I Teach Reading

Forms Sent

Reading	Yes	No
Yes	7	79
No	53	418

Note. $\chi^2(1, N=557) = 0.52765, p = .4678.$

Table C-46

Chi-Square of Clusters of Student Labels, Interpretive Guide,
Obj/Assessment Reports Sent to Me by I Teach Language Arts

Forms Sent		
Language Arts	Yes	No
Yes	24	228
No	36	269

Note. $\chi^2(1, N=557) = 0.52765, p = .4676.$

Table C-47

Chi-Square of Clusters of Student Labels, Interpretive Guide,
Obj/Assessment Reports Sent to Me by I Teach Remedial Mathematics

Forms Sent		
Remedial Mathematics	Yes	No
Yes	18	82
No	42	415

Note. $\chi^2(1, N=557) = 5.74004, p = .0166.$

Table C-48

Chi-Square of Clusters of Student Labels, Interpretive Guide,
Obj/Assessment Reports Sent to Me by I Teach Mathematics

Forms Sent

Mathematics	Yes	No
Yes	25	230
No	35	267

Note. $\chi^2(1, N=557) = 0.2916, p = .5892.$

Table C-49

Chi-Square of Clusters of Student Labels, Interpretive Guide,
Obj/Assessment Reports Sent to Me by School Setting

Forms Sent

School Setting	Yes	No
Urban	13	120
Suburban	19	134
Rural	28	240

Note. $\chi^2(2, N=551) = 0.99295, p = .6087.$

Table C-50

Chi-Square of Clusters of Student Labels, Interpretive Guide,
Obj/Assessment Reports Sent to Me by Hours of Statistics, Measurement

Forms Sent		
Hours	Yes	No
0-3 hours	19	126
4-9 hours	8	102
10-18 hours	17	177
19 or more hours	16	93

Note. $\chi^2(3, N=558) = 4.7744, p = .1891.$

Table C-51

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary
Reports, Labels Available to Me by Eighth Grade in School

Forms Sent		
Grades	Yes	No
8-9 Together	155	58
8-9 Separate	228	117

Note. $\chi^2(1, N=558) = 2.43072, p = .1190.$

Table C-52

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports, Labels Available to Me by I Teach Reading

Forms Sent		
Reading	Yes	No
Yes	64	21
No	155	318

Note. $\chi^2(1, N=558) = 1.812, p = .1782.$

Table C-53

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports Labels Available to Me by I Teach Language Arts

Forms Sent		
Language Arts	Yes	No
Yes	169	81
No	213	95

Note. $\chi^2(1, N=558) = 0.09103, p = .7629.$

Table C-54

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports, Labels Available to Me by I Teach Remedial Mathematics

Forms Sent

Remedial Mathematics	Yes	No
Yes	70	32
No	312	144

Note. $\chi^2(1, N=558) = 0.15058, p = .6980.$

Table C-56

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports, Labels Available to Me by I Teach Mathematics

Forms Sent

Mathematics	Yes	No
Yes	174	84
No	208	92

Note. $\chi^2(1, N=567) = 2.39628, p = .1216.$

Table C-57

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports, Labels Available to Me by School Setting

School Setting	Forms Sent	
	Yes	No
Urban	89	43
Suburban	118	37
Rural	173	92

Note. $\chi^2(2, N=552) = 5.52557, p = .0631.$

Table C-57

Chi-Square of Clusters of Individual Form, Achievement Roster, Summary Reports, Labels Available to Me by Hours of Statistics, Measurement

Forms Sent

Hours	Yes	No
0-3 hours	91	53
4-9 hours	79	31
10-18 hours	139	57
19 or more hours	74	35

Note. $\chi^2(3, N=559) = 2.99062, p = .3931.$

Table C-60

Chi-Square of Clusters of Item Analysis, Interpretive Guide,
Obj/Assessment Reports Sent to Me by I Teach Language Arts

 Forms Sent

Language Arts	Yes	No
Yes	154	93
No	178	125

Note. $\chi^2(1, N=550) = 0.51594, p = .4404.$

Table C-61

Chi-Square of Clusters of Item Analysis, Interpretive Guide,
Obj/Assessment Reports Sent to Me by I Teach Remedial Mathematics

 Forms Sent

Remedial Mathematics	Yes	No
Yes	60	40
No	272	178

Note. $\chi^2(1, N=550) = 0.0000, p = 1.0000.$

Table C-62

Chi-Square of Clusters of Item Analysis, Interpretive Guide,
Obj/Assessment Reports Sent to Me by I Teach Mathematics

Forms Sent		
Mathematics	Yes	No
Yes	142	111
No	190	107

Note. $\chi^2(1, N=550) = 3.19535, p = .0738.$

Table C-63

Chi-Square of Clusters of Item Analysis, Interpretive Guide,
Obj/Assessment Reports Sent to Me by School Setting

Forms Sent		
School Setting	Yes	No
Urban	72	56
Suburban	96	55
Rural	160	105

Note. $\chi^2(2, N=544) = 1.55462, p = .4596.$

Table C-64

Chi-Square of Clusters of Item Analysis, Interpretive Guide,Obj/Assessment Reports Sent to Me by Hours of Statistics, Measurement

Forms Sent

Hours	Yes	No
0-3 hours	82	62
4-9 hours	71	37
10-18 hours	118	75
19 or more hours	62	44

Note. $\chi^2(3, N=551) = 2.21298, p = .5294.$

Table C-65

Chi-Square of Individual Student Form Sent to Me
by Grades in School

Form Sent	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	52	50
No	164	302

Note. $\chi^2(1, N = 568) = 8.19295, p = .0042.$

Table C-66

Chi-Square of Individual Student Form Available to Me
by Grades in School

Form Available	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	176	269
No	38	79

Note. $\chi^2(1, N = 562) = 1.67653, p = .1954.$

Table C-67

Chi-Square of Student Achievement Roster Sent to Me
by Grades in School

Form Sent	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	31	35
No	184	317

Note. $\chi^2(1, N = 567) = 2.18235, p = .1396.$

Table C-68

Chi-Square of Student Achievement Roster Available to Me
by Grades in School

Form Available	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	155	235
No	58	113

Note. $\chi^2(1, N = 561) = 1.47446, p = .2246.$

Table C-69

Chi-Square of Summary of Student Reports Sent to Me
by Grades in School

Grades in School		
Form Sent	8 and 9 Together	8 and 9 Not Together
Yes	37	35
No	178	317

Note. $\chi^2(1, N = 567) = 5.71816, p = .0168.$

Table C-70

Chi-Square of Summary of Student Reports Available to Me
by Grades in School

Grades in School		
Form Available	8 and 9 Together	8 and 9 Not Together
Yes	163	242
No	51	106

Note. $\chi^2(1, N = 562) = 2.57175, p = .1088.$

Table C-71

Chi-Square of Student Achievement Labels Sent to Me
by Grades in School

Grades in School		
Form Sent	8 and 9 Together	8 and 9 Not Together
Yes	28	23
No	187	325

Note. $\chi^2(1, N = 563) = 5.88094, p = .0153.$

Table C-72

Chi-Square of Student Achievement Labels Available to Me
by Grades in School

Form Available	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	149	240
No	65	105

Note. $\chi^2(1, N = 559) = 0.0000, p = 1.0000.$

Table C-73

Chi-Square of Item Analysis Forms Sent to Me
by Grades in School

Form Sent	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	32	31
No	181	318

Note. $\chi^2(1, N = 562) = 4.41356, p = .0357.$

Table C-74

Chi-Square of Item Analysis Forms Available to Me
by Grades in School

Form Available	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	152	217
No	59	129

Note. $\chi^2(1, N = 557) = 4.68461, p = 0.0304.$

Table C-75

Chi-Square of Teacher's Interpretive Guide Sent to Me
by Grades in School

Form Sent	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	21	23
No	190	326

Note. $\chi^2(1, N = 560) = 1.61526, p = .2038.$

Table C-76

Chi-Square of Teacher's Interpretive Guide Available to Me
by Grades in School

Form Available	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	139	196
No	70	148

Note. $\chi^2(1, N = 553) = 4.55383, p = 0.0328.$

Table C-77

Chi-Square of Objectives and Assessment Characteristics Sent to Me
by Grades in School

Form Sent	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	22	23
No	189	325

Note. $\chi^2(1, N = 559) = 2.09595, p = .1477.$

Table C-78

Chi-Square of Objectives and Assessment Characteristics Available to Me
by Grades in School

Form Available	Grades in School	
	8 and 9 Together	8 and 9 Not Together
Yes	133	178
No	77	165

Note. $\chi^2(1, N = 553) = 6.46748, p = 0.0110.$

Table C-79

Rating Individual Report Form for Instructional Decisions

Rating	Instructional Decision					
	Planning		Grouping		Remed/Accel	
	n	%	n	%	n	%
Not Important	61	10.7	46	8.1	34	5.9
Slightly Imp.	72	12.6	51	8.9	41	7.2
Important	210	37.0	203	35.7	177	31.2
Very Important	103	18.1	139	24.5	172	30.3
Crucial	34	6.0	41	7.2	56	9.9
Not Available	88	15.5	88	15.5	88	15.5
Missing	4	.7	4	.7	4	.7
TOTAL	572	100.0	572	100.0	572	100.0

Table C-80

Rating Student Achievement Roster for Instructional Decisions

Instructional Decision						
Rating	Planning		Grouping		Remed/Accel	
	n	%	n	%	n	%
Not Important	54	9.5	49	8.6	41	7.2
Slightly Imp.	63	11.1	52	9.2	46	8.1
Important	166	29.2	165	29.0	159	28.0
Very Important	110	19.4	128	22.5	142	25.0
Crucial	31	5.5	30	5.3	35	6.2
Not Available	144	25.4	144	25.4	144	25.4
Missing	4	.7	4	.7	4	.7
TOTAL	572	100.0	572	100.0	572	100.0

Table C-81

Rating Summary Student Reports for Instructional Decisions

Rating	Instructional Decision					
	Planning		Grouping		Remed/Accel	
	n	%	n	%	n	%
Not Important	65	11.4	58	10.2	52	9.2
Slightly Imp.	62	10.9	58	10.2	59	10.3
Important	178	31.3	173	30.5	169	29.8
Very Important	103	18.1	112	19.8	119	21.0
Crucial	22	3.9	28	4.9	30	5.3
Not Available	138	24.3	138	24.3	138	24.3
Missing	4	.7	4	.7	4	.7
TOTAL	572	100.0	572	100.0	572	100.0

Table C-82

Rating of Student Labels for Instructional Decisions

Rating	Instructional Decision					
	Planning		Grouping		Remed/Accel	
	n	%	n	%	n	%
Not Important	76	13.3	68	12.0	61	10.8
Slightly Imp.	89	15.7	72	12.7	64	11.2
Important	165	29.1	166	29.3	167	29.5
Very Important	84	14.8	106	18.7	119	21.0
Crucial	20	3.5	23	4.1	25	4.4
Not Available	133	23.5	132	23.3	131	23.1
Missing	4	.7	4	.7	4	.7
TOTAL	572	100.0	572	100.0	572	100.0

Table C-83

Rating of Teacher' Interpretive Guide for Instructional Decisions

Rating	Instructional Decision					
	Planning		Grouping		Remed/Accel	
	n	%	n	%	n	%
Not Important	73	12.8	82	14.5	75	13.2
Slightly Imp.	62	10.8	58	10.2	59	10.4
Important	132	23.2	139	24.5	133	23.5
Very Important	93	16.3	89	15.7	97	17.1
Crucial	31	5.4	21	3.7	25	4.4
Not Available	177	30.9	178	31.4	178	31.4
Missing	4	.7	4	.7	4	.7
TOTAL	572	100.0	572	100.0	572	100.0

Table C-84

Rating of Objectives and Assessment Characteristics
for Instructional Decisions

	Instructional Decision					
	Planning		Grouping		Remed/Accel	
	n	%	n	%	n	%
Not Important	53	9.3	62	10.9	53	9.3
Slightly Imp.	60	10.6	70	12.2	66	11.6
Important	153	26.9	143	25.2	141	24.9
Very Important	96	16.9	98	17.3	102	18.0
Crucial	36	6.3	24	4.2	35	6.2
Not Available	177	30.9	178	31.4	178	31.4
Missing	4	.7	4	.7	4	.7
TOTAL	572	100.0	572	100.0	572	100.0

Table C-85

Rating of Item Analysis Form for Instructional Decisions

Rating	Instructional Decision					
	Planning		Grouping		Remed/Accel	
	n	%	n	%	n	%
Not Important	69	12.2	84	14.8	77	13.6
Slightly Imp.	65	11.5	74	13.0	64	11.3
Important	156	27.5	144	25.4	148	26.1
Very Important	91	16.0	84	14.8	93	16.4
Crucial	21	3.7	17	3.0	21	3.7
Not Available	165	29.1	165	29.0	165	29.0
Missing	4	.7	4	.7	4	.7
TOTAL	572	100.0	572	100.0	572	100.0

Table C-86

Ratings of Usefulness of Report A for Instructional Decisions

Instructional Decision	Rating									
	Not Useful		Slightly Useful		Useful		Very Useful		Crucial	
	n	%	n	%	n	%	n	%	n	%
Analyzing	112	19.9	210	37.3	173	30.7	59	10.5	9	1.6
Interp/Students	135	24.0	231	41.0	135	23.6	52	9.2	10	1.8
Interp/Parents	142	25.2	233	41.4	132	23.4	49	8.6	7	1.2
Grouping	134	23.8	208	37.0	170	30.2	48	8.5	2	.4
Remediation	117	20.8	209	37.2	172	30.6	55	9.8	9	1.6
Acceleration	129	23.0	203	36.1	165	29.4	55	9.8	10	1.7
Planning	142	25.3	212	37.7	155	27.6	46	8.2	7	1.2
Overall Eval.	113	20.1	250	44.5	159	28.3	33	5.9	7	1.2

Table C-87

Ratings of Usefulness of Report B for Instructional Decisions

Instructional Decision	Rating									
	Not Useful		Slightly Useful		Useful		Very Useful		Crucial	
	n	%	n	%	n	%	n	%	n	%
Analyzing	7	1.2	81	14.4	298	52.9	155	28.5	22	3.9
Interp/Students	7	1.2	62	11.0	280	49.7	186	33.0	28	5.0
Interp/Parents	6	1.1	66	11.7	270	48.0	196	34.8	25	4.4
Grouping	19	3.4	80	14.2	285	50.7	169	30.1	9	1.6
Remediation	9	1.6	72	12.8	283	50.4	185	32.9	13	2.3
Acceleration	17	3.0	86	15.3	275	49.0	171	30.5	12	2.1
Planning	17	3.0	68	12.1	269	48.0	186	33.2	21	3.7
Overall Eval.	7	1.2	59	10.5	303	53.9	182	32.4	11	2.0

Table C-88

Ratings of Usefulness of Report C for Instructional Decisions

Instructional Decision	Rating									
	Not Useful		Slightly Useful		Useful		Very Useful		Crucial	
	n	%	n	%	n	%	n	%	n	%
Analyzing	6	1.1	26	4.6	155	27.5	287	51.0	89	15.8
Interp/Students	8	1.4	23	4.1	129	22.9	292	51.9	111	19.7
Interp/Parents	7	1.2	22	3.9	133	23.6	294	52.2	107	19.0
Grouping	17	3.0	30	5.3	145	25.8	276	49.1	94	16.7
Remediation	9	1.6	24	4.3	137	24.3	293	52.0	100	17.8
Acceleration	14	2.5	38	6.8	131	23.3	287	51.1	92	16.4
Planning	11	2.0	21	3.7	110	19.5	293	52.0	128	22.7
Overall Eval.	8	1.4	18	3.2	121	21.5	305	54.3	110	19.6