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ABSTRACT

This document provides background on the development of the Alabama Basic Competency Tests (ABCT). James E. McLean, in "Introduction to the ABCT," discusses the creation of the tests, compares them with the California Achievement Tests, and indicates the ABCT relationship to the Alabama High School Graduation Exam. "Review of Past Research on Remediation for Minimum Competency Testing," by Peggy Connell, reviews current literature to investigate remedial services provided to students to help them pass minimum competency tests. James Davidson, in "Results of a Survey to Assess Remediation Plans Being Implemented," reports that 46 responses of 127 school superintendents surveyed to determine systemwide plans for remediation, revealed several patterns of remediation. A list of responsibilities related to competency testing which have been delegated to school counselors is presented by Gypsy Abbott in "The Role of the Counselor in Minimum Competency Testing." Abbott offers suggestions as to when and how to offer remediation in "Practical Implications of Research Findings." (PN)

# Minimum Competency Testing: Inception through Remediation

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Presentation I: Introduction to the Alabama Basic Competency Tests (ABCT)

Presenter: James E. McLean, Ph.D., The University of Alabama, Tuscaloosa, Alabama

## Introduction

The purpose of this program is to provide some background on the development of the Alabama Basic Competency Tests (ABCT), compare them with the California Achievement Tests (CAT), and suggest their relationship to the Alabama High School Graduation Exam (AHSGE). Each of these takks will be addressed in order.

## Development of the ABCT

The ABCT is an outgrowth of an Alabama State Board of Education resolution in 1977. The resolution established a committee (known as the Committee of 100) which was charged with developing a plan for basic competency education (BCE) in Alabama. The Committee of 100 submitted a plan to the Board after one year of work. The plan was approved in July of 1978.

Minimal skill specifications in reading, writing, and mathematics were developed by the Standards and Competencies Subcommittee of the Committee of 100. These skill specifications included standards, competencies, and example items for measuring each competency. After screening by selected teachers and administrators in the state, a Task Force was appointed to develop tests to measure these competencies at the third, sixth, and ninth grade levels.

Thirty-six educators from Alabama made up the Test Development Task Force. They included three classroom teachers from each subject matter and grade level (i.e., three third grade reading teachers, three

third grade math teachers, etc.) and nine measurement specialists from Alabama colleges, universities, and school system testing departments.

The Task Force met for the first time in December of 1978 to begin work on the minimum competency tests (as they were known at that time). The first meeting included addresses by Dr. Richard Causey, the director of the program for the Alabama State Department of Education; Dr. William Berryman, Director of the State Department Division of Instruction; Dr. Wayne Teague, State Superintendent of Education; Mrs. Isabelle Thomasson, State Board of Education Member; and Dr. William Mehrens, a nationally known expert in the field of measurement.

The Task Force met in their subgroups to formulate plans. The group of nine measurement specialists presented a plan to the entire Task Force for consideration. The main points of the plan were as follows:

1. Subcommittees of the Task Force would write test items to measure each of the standards and competencies.
2. An outside testing firm would be hired to review and edit the items.
3. The subcommittees would then review the comments of the testing firm and make appropriate modifications.
4. The items would then be reviewed for racial and sex biases by an outside minority review committee.
5. The testing firm would assemble several forms of the tests for pilot testing.
6. Pilot tests would be administered.
7. The testing firm would score and analyze the results from the pilot testing and make recommendations to the Task Force for final forms.
8. The Task Force reviews recommendations and finalizes tests.
9. The Alabama Basic Competency Tests would now be available for state-wide use.

The full Task Force adopted this plan on the second day of their first meeting.

The Task Force met an average of once a month for the next six months and the Educational Testing Service was contracted to assist. Pilot examinations were administered in the Fall of 1979 to the seven school systems selected for this purpose. After ETS scored and analysed the data from the pilot administration the Task Force met to go over the results and put together a final form of each test. The tests were first administered state-wide in May, 1980.

ABCT vs. CAT

The ABCT and the CAT are both achievement tests, but are designed to serve different purposes. The ABCT is a criterion referenced test designed to assess the set of minimum competencies identified by the Committee of 100. The CAT is a wide-range achievement test designed to obtain a general knowledge level of students. Even though the purposes of the tests are quite different, they are related with respect to their content and achievement levels of students.

A study by Mitchell, Hardy, and McLean (1981) compared the two tests on the bases of content and student ersponses. The study was based on the administration of both the ABCT and the CAT to third- and sixth-grade students in Alabama in the spring of 1980. The tests were administered about one month apart and approximately 95% of the students scores were matched successfully. Analyses were based on 46,888 and 42,256 third- and sixth-grade students respectively (Mitchell, et al., 1981).

Based on the content analysis of the third- and sixth-grade ABCT and CAT, content overlaps ranged from 54% to 73% in reading/language and from 29% to 94% in mathematics. In general, the ABCT covers a wider range of specific skills in reading/language than does the CAT but the ABCT emphasizes more application in mathematics than does the CAT (Mitchell, et al., 1981). It should be kept in mind that the CAT is designed to measure a much broader range of achievement.

The ABCT and the CAT are correlated to a surprising degree. Table 1 indicates the correlation coefficients between the corresponding subtests of the ABCT and the CAT for grades 3 and 6.

Table 1

Pearson Product-Moment Correlation Coefficients Between Subtests fo the ABCT and CAT

| Grade | Subtest | Correlation |
|---|---|---|
| 3 | Reading | .84 |
| 3 | Math | .84 |
| 3 | Language | .79 |
| 6 | Reading | .83 |
| 6 | Math | .88 |
| 6 | Language | .82 |

Note: Data are abstracted from Mitchell, et al. (1981, pp. 16-17).

As can be seen in Table 1, the correlation coefficients range from .79 to .88. Thus, the statistical relationships seem to exceed the content relationships.

ABCT Relationship to AHSGE

The AHSGE is a separate and additional examination to the ninth-grade ABCT. All students in Alabama will be required to take the AHSGE before receiving a high school diploma regardless of their performance on the ninth-grade ABCT.

The AHSGE is based on the same objectives, standards, and competencies as the ninth-grade ABCT. These are listed in the Minimum Standards and Competencies for Alabama Schools (1979). The three ABCTs are intended to identify students deficient in the competencies before high school and to influence curricula applicable to the competencies (Mitchell, et al.). The AHSGE is a final check on the students' attainment of these minimum competencies.

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Presentation II: Review of Past Research on Remediation for Minimum Competency Testing

Presenter: Peggy Connell, Guidance Counselor, Phillips High School, Birmingham City School Ssytem

## Purpose of the Review

The main focus of this review is to investigate remedial services provided to students to help them pass minimum competency tests. The reason for the focus on remedial services is the potential importance of this topic to education in Alabama. The Alabama State Board of Education strongly suggests that school systems document that each student has had the opportunity to learn the required minimum competencies and remedial instruction be given to students who fail to master the competencies. The development of the remediation services are left up to the discretion of the local schools. Reviewing the different remedial programs offered in other states might help Alabama educators plan an effective remedial program.

## Preparation for Remediation

Good descriptive data about remedial services are rare and few districts have conducted research to determine the effectiveness of remedial strategies (Strang, 1981). "Too little attention has been paid to and perhaps too little is known about effective means of remediating the learning problems of students failing the competency exams" (Archambault, 1979, p. 32).

Many states including South Carolina, New Mexico, Maryland, and Florida indicated that their first step in remediation was to revise the curriculum to ensure relevant skills are taught at all grade levels. Parramore (1980) cited a study by Coleman (1975, p. 16) who suggested

that "the closer the linkage between test content and course content, the stronger will school effects appear to be".

An alternative to curriculum revision is a goal-based instructional program which Oregon has adopted. This state claims that the goal-based approach appears to have dramatically improved test scores (Schaumleffel, 1981). This program does involve revising the curriculum by establishing a network of goals from broad to specific goals covering the total instructional program.

Other states, Connecticut, Oregon, Florida, Arizona, South Carolina, and California have reviewed curriculum by identifying the individual's specific needs from the competency test. By identifying and diagnosing academic problems, the appropriate remedial instruction can be prescribed (Parramore, 1980). Strang's (1981) study of 13 states requiring minimum competency testing indicated that "remedial programs targeted at deficiencies identified by the tests were able to fill in specific knowledge gaps for many students" (p. 38).

The research reviewed suggested that the most appropriate first step in planning a remedial program is to review the curriculum. After the review of the curriculum one might find it appropriate to revise the curriculum to include minimum competency skills, to establish a goal-based instructional program incorporating minimum competency skills, or to identify individual's specific needs based on the competency test. After the review of the curriculum then the design of the remedial program can begin.

## Designing Remedial Programs

In designing remedial programs there are several factors to consider (1) When to offer the remedial programs (2) Amount of time to be allotted to remediation (3) The size of the class where remediation is offered (4) The type of remedial program.

Parramore's (1980) research in the North Carolina's statewide remediation program in four counties indicated that mastery of the skills on the competency test might be influenced by the semester in which remediation is offered. "The extra help offered immediately following CT 1 appears to have been more effective than remediation provided in Fall 1979, following the second test" (Parramore, 1980, p. 7). However, the results of this study could have been influenced by the smaller number of students taking the competency test in the fall, 1979, than in the spring, 1979. Also, students remediated in the fall, 1979, were repeated test failers, while students remediated in the spring, 1979, were initial test failers. In addition to deciding in which semester to offer remediation, the research indicated that the grade level in which remediation is offered is important. Studies in New Jersey showed that the greatest decline in test scores occurred in the middle grades, and concluded that it is critical for deficiencies to be identified early and remediation begin (Price, 1979). However in Parramore's (1980) study in North Carolina, students who were remediated before the first competency test did not outperform students who were not remediated. One could conclude that early remediation was not effective, or that teachers and counselors were accurate in identifying students with deficiencies in basic skills, or the possibility of a "self-fulfilling prophecy." The

early remediation for the students could "have triggered an essentially negative reaction, perhaps in the form of heightened anxiety and lowered self-confidence" (Parramore, 1980, p. 4).

Another factor to consider in designing remedial programs is the amount of time allotted to remediation or volume of remediation. Parramore (1980) found the amount of remediation a factor in the study in North Carolina. Only intensive reading remediation seems to help students pass the reading section of the second competency test, while moderate and intensive levels of remediation in math are beneficial to students passing the mathematical section of the second competency test. The remediated students outperformed the non-remedials on the second competency test, but this pattern is not true for the third competency test. Repeated test failers appear to be different from students who failed only on their first attempt. "The great majority of pupils fail the third Competency Test regardless of the volume or type of remediation they receive" (Parramore, 1980, p. 7). This research seems to show that if remediation for repeated test failers is to be effective, it should be intensive. These results coincide with studies of "time-on-task". "It has been pointed out that under mastery learning some students need more time and help to reach mastery criterion than do others. Carroll (1963), Glaser (1968) and Atkinson (1968) have estimated that to reach a criterion of mastery some students may need five times as much time as do other students" (Bloom, 1976, p. 188). Therefore, the variables to consider in deciding the volume of remediation to be offered to students are the section of non-mastery on the competency test, reading or math, and student characteristics, repeated test failers or initial test failers.

The number of students in a class where remediation is offered is another factor to consider in designing remedial programs. The research

is contradictory of the effect of class size and student achievement. In findings discussed by Bloom (1976) revealed "that classroom variables, including class size, account for no more than 5% of the variation in achievement scores" (Archambault, 1979, p. 41). Other studies pointed out that the size of a class is important for remedial instruction. In Parramore's (1980) study in North Carolina showed that students who were remediated individually or in small groups usually exceeded students remediated in larger groups. Remediation in math using a combination format of individual, small group, and large group showed more gains on the competency tests than using a combination format for reading remediation. A study conducted by Glass (1978) reported "that student achievement climbs as class size decreases, particularly when size approaches fifteen pupils" (Archambault, 1979, p. 44). While the research points to different findings regarding class size and student achievement, class size could be an important variable in designing a remedial program.

## Type of Remedial Program

There are various types of remedial programs that have been used in other states including special pull out instruction, basic skills lab, after-school session, open-entry open-exit summer programs, resource rooms, peer tutorial programs, individualized instruction, elective basic skills course, in-class assessment, regular classroom with remediation, and individualized instruction. Larger school districts usually offered remediation in structured situations, such as specific classes. In smaller districts remediation was usually a part of standard classroom instruction (Strang, 1981). Research is not

available on all types of remedial programs, but labs or pull-out programs were the most used source of remedial instruction, and there is some research data on these programs. Archambault (1979) reported on research conducted by Frechtling and Hammond (1978) of the effect of pull-out remedial instruction, students are removed from the regular classroom and brought to specially designed areas, did not show significant gains in student achievement as compared to instruction provided in the class using a teacher aide or another teacher. In a study by Glass and Smith (1979) concluded that "pull-out is not only academically harmful but also a mean of defacto segregation (Archambault, 1979, p. 42) because minorities have a higher failure rate on competency tests.

Research is also available on the remediation plan of individualized instruction which is used by several states including New Mexico, New Jersey, and North Carolina. This type of remediation was usually used in a standard classroom setting. Miller (1976) reviewed 145 studies on individualized instruction and found conflicting reports. The major findings of the review of the research were that low-ability students tended to benefit more significantly from individualized instruction than high ability students, student's personality was a factor and the programs were not successful with all types of students; and thus it was recommended that individualized instruction be voluntary. In research conducted by Parramore (1980) found that girls tended to benefit more from individualized instruction, while boys benefited more from small group instruction. The most detailed description of an individualized instruction plan was in New Jersey who utilizes the Individual Student Improvement Plan. The plan consists of an analysis of a student's basic skills performance, a listing

of skill deficiencies, a description of the instructional program to be provided, a description of the evaluation procedures and identification of staff members who are responsible for the program. The parents and students are informed of the plan and take an active part in the development of the plan, (Price, 1980).

While the research is limited regarding remediation programs, the Instructional Services Divisions in North Carolina has suggested possible successful remedial programs which include "'small classes, summer programs, community agency programs, essential skills labs, extended day programs, tutorial programs, using student teachers, take-home programs, differentiated assignments, and hiring more teacher aides'". (Archambault, 1979, p. 38)

## Reporting Progress

Whatever type of remedial program used, all of the states used some form of reporting students' progress on basic skills achievement to parents. The ways of reporting varied from individualized conferences with parents whose children were deficient in the basic skills to form letters to all parents indicating students' progress on basic skills. The Connecticut State Board of Education requires schools to report students' progress to both students and parents (Archambault, 1979). In Parkrose School District, Oregon, "parents receive notice of their child's attainment (or lack of attainment) of the minimum graduation requirements" *Shaumhellel, 1981, p. 25) and parents are encouraged to discuss the results with counselors. Baron and Sergi (1979) stated that a responsible use of tests is to provide feedback to parents. The Alabama State Department of Education stated that

one of the task of a school guidance counselor is to work with parents and counsel with students regarding the remediation process (Alabama State Department of Education, 1981). Therefore, the remediation plan should include some type of reporting progress to students and parents.

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Presentation III: Results of a Survey to Assess Remediation Plans being Implemented.

Presenter: James Davidson, Ph.D., The University of Alabama in Birmingham

## Introduction

In the summer of 1982, questionnaires were sent to the 127 school superintendents in order to determine system-wide plans for remediation. Forty-six responses were received (36.2%).

## Findings

Plans submitted by the superintendents revealed several patterns of remediation. In some instances, program descriptions fit more than one pattern title. For example, the description of what one system called based skills fit the same description of what another system called developmental skills. Thus, the following operational definitions were used to assign system plans to the specific patterns that follow.

1. Regular Classroom - remediation occurs as part of the regular curriculum. The teacher keeps a record of remediation needed and provides experiences necessary for each student.
2. Basic Skills Classes or Remedial Classes - classes devoted to teaching the basics necessary. In these classes, specific time to the remediation of skills not mastered.
3. Leveled Classes - classes organized to teach at a specified level - i.e., basic, average, above average.
4. Competency Stress Periods - specific time periods scheduled daily, one or two hours a week or other intervals devoted to review of basic skills. Competency skills are emphasized. This activity may include just the students who appear to be in need of remediation or may include all students in the system.

5. Chapter I and II - federal programs designed to teach the student at his/her level of achievement.
6. Team Teaching Remediation - teachers organized into groups (teams) to help remediate students on specific grade levels. Each school has a team leader.
7. Computers - individualized instruction using microcomputer for instruction is used. Computer assisted.

Table 1

Remediation Patterns at the Elementary Level

| | | |
|---|---|---|
| 1. | Regular Class | 15 |
| 2. | Regular Class + Remedial + Resource | 13 |
| 3. | Chapter I Only | 2 |
| 4. | Chapter II Only | 1 |
| 5. | Team Teaching Remediation | 1 |
| 6. | Special Monitoring (Re-tested next year) | 1 |
| 7. | Basic Skills Period | 1 |
| | | 34 |
| | Don't Have Plans | 4 |
| | Don't Have Elementary Plan | 5 |
| | Plans Left to the School | 1 |
| | | 44 |

It is obvious that the regular class setting is important in the remediation process. The regular classroom in combination with various resources accounts for a large portion of remediation efforts.

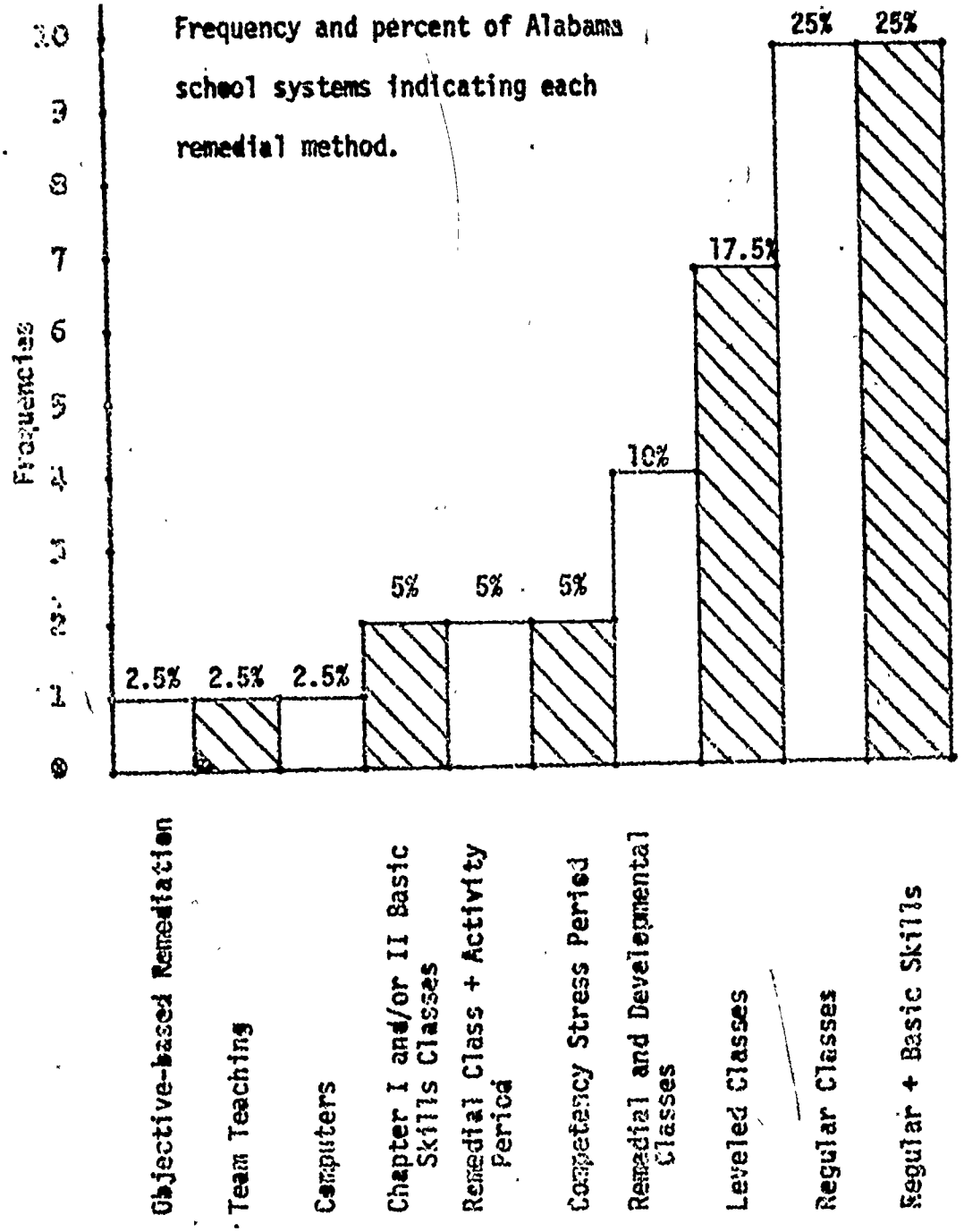
Table 2

Remediation Patterns at the Secondary Level

| Secondary | # of systems |
|---|---|
| 1. Regular Class + Basic Skills Classes | 11 |
| 2. Regular Class | 10 |
| 3. Placement in appropriate-leveled classes | 4 |
| 4. Remedial Classes - Developmental classes | 7 |
| 5. Competency Stress Periods | 2 |
| 6. Remedial Classes + Activity Periods | 2 |
| 7. Chapter I and/or Chapter II + Basic Skills | 2 |
| 8. Computers | 1 |
| | 39 |
| Do not have plans | 4 |
| Plans left to schools | 1 |
| | 44 |

Table 3

Frequency and percent of Alabama school systems indicating each remedial method.



Presentation IV: The Role of the Counselor in Minimum Competency Testing

Presenter: Gypsy Abbott, Ph.D., The University of Alabama in Birmingham

## ROLE OF THE COUNSELOR

Specific responsibilities have been delegated to all school personnel, including counselors, by the State Department of Education. These responsibilities are:

- be thoroughly familiar with the BCE program at all levels.
- work with the LEA test coordinator in planning and implementing the local school BCE testing program.
- work cooperatively with the principal and staff in providing test materials and appropriate information on test administration.
- be responsible for the building's test administration.
- be thoroughly knowledgeable of test result forms and their usage.
- work cooperatively with special education personnel on test accommodation and test administration for students identified as exceptional, including the planning for Carnegie units.
- be responsible for coordinating the BCE documentation process.
- counsel with students regarding test-taking techniques, analysis of test results, and the remediation process.
- work with parents regarding reinforcement techniques relative to the BCE program.

Presentation V: Practical Implications of Research Findings

Presenter: Gypsy Abbott, Ph.D., The University of Alabama in Birmingham

Practical decisions about when and how to offer remediation can be better made when considering the results of past research in this area. The problem of when to remediate can be approached in two ways - early in the child's school career prior to the development of skill deficits or after specific problems have been detected. Since the ABCT and the CAT are highly correlated, students who are potential "high risk" students can be identified as early first grade. Thus, remediation efforts can begin before deficits in academic skill areas become so pronounced. Early detection and intervention are crucial in prevention of cumulative basic skill deficits. However, many students are beyond early grades and are in the position of having quite poor academic skills. Thus, plans for remediation must take into account the students basal ability level at the time the deficits (i.e. failure to pass minimum competency tests) are noted. When these students fail the competency test on the initial test administration, it is notable that only intensive remediation in the area of reading appears to help students pass the test on the second administration. However, in the area of math, both moderate and intensive levels of remediation were effective. Thus, school systems may want to develop intensive remedial programs for reading but moderate to intensive programs for math. It is clear from past findings that it is most beneficial to begin whatever remediation efforts are to be undertaken as soon as the results from the initial testing are reported.

The "how" of remediation can best be considered by looking at a number of possibilities. Most school systems in Alabama are instituting remedial plans within the regular classroom setting. Thus, it will be

important to consider research results indicating that individualized instruction or small group instruction is more effective than other methods with low ability students. Teachers may want to consider extensive use of these techniques with the low ability students. There are several commercially available types of individualized instruction, for example, SRA and computer assisted instruction. Although only one system indicated that they are presently using the microcomputer for remediation purposes, many school systems are purchasing microcomputers for this purpose. The effectiveness of using microcomputers as a method of individualized instruction for remediation will depend on how well the software being used meets the needs of the students to be remediated. Using the microcomputer will probably be particularly helpful in the areas of drill and practice for the purpose of reinforcement. There are obvious benefits from using this method in the area of mathematics. There has been some question about the effectiveness of using microcomputers in remediation in the language arts area. Actually little definitive research has been conducted. Thus, we are in the pioneering stages of using this method. One problem to consider in using the microcomputer as a remediation tool is that of transfer of learning - can the student transfer the skills learned from the programmed instruction to paper and pencil or standardized tests. This is an area in which further research needs to be done. However, other methods of individualized and small group instruction should be carefully considered. Another consideration when considering "how" to remediate is the possibility of using either peer-tutoring or cross-age tutoring. Although no school system who responded to our questionnaire used this method, past research

has indicated that this is a highly successful method which benefits both the student to be tutored and the student who is doing the tutoring. Programs of this type could be set up within classrooms or within schools as an additional approach to remediation.

Although there are no clear answers on how to best remediate, some methods and procedures that have been discussed appear to be more effective than others. We have attempted to describe the information currently available so that school systems can make better decisions about the remediation processes to use in their systems.