

THE ACQUISITION AND RETENTION OF SPECIAL  
EDUCATION INFORMATION IN RELATION TO NEEDS  
SATISFACTION AND PRACTICABILITY OF INSERVICE  
TRAINING FOR SECONDARY TEACHERS

by

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(ABSTRACT)

This study investigated the acquisition and retention of information presented in the Secondary Instructional/Special Education Project conducted in Chesterfield County, Virginia, Public Schools. A two-group pretest posttest posttest design was used. Retention of information was measured after teachers completed the Inservice Project and returned to the classroom. In addition to the acquisition and retention of information, the relationship of practicability and needs satisfaction to the acquisition and retention of information was investigated. Theoretical practices associated with inservice education were reviewed and presented.

Analysis of variance using treatments-by-subjects design was employed to compare the scores on the pretest, posttest I and posttest II for each group. When the  $F$  was found to be significant in the analysis of variance, the Duncan's Multiple Range Test was used for making multiple comparisons. The Pearson Product-Moment Correlation was used to determine if there was a significant statistical relationship between information acquired, practicability and needs satisfaction.

The Pearson Product-Moment Correlation was also used to examine the statistical relationship between retention and the factors of practicability and needs satisfaction. On-going class assessments and teacher interview data were collected and used in the assessment of practicability and needs satisfaction.

The analysis of the data revealed a significant increase in the participants' information about special education as measured by the difference between the scores on the pretest and on posttest I immediately following the completion of the course. Information was retained over time by participants in the follow-up study. For participants, ten months after their training, the data revealed that most of the information was retained as represented by the significant difference between the mean pretest score of 21.60 and the mean posttest II score of 43.07. For participants six months following training there was no significant decrease in information as measured by the difference in scores on posttest I and posttest II.

Although no significant statistical relationship was demonstrated between acquisition or retention of information to practicability and needs satisfaction through an analysis of data using the Pearson Product-Moment Correlation, participants interviewed indicated that they had used the information presented in their teaching. They also indicated that the training had affected their teaching and made a difference in their understanding of and work with handicapped children. The interview results were consistent with findings collected throughout the Inservice Project indicating a high level of practicability and usefulness of information.

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## Chapter 1

### INTRODUCTION

This study was an investigation of the acquisition and retention of information by secondary classroom teachers as a result of their participation in the Secondary Instructional/Special Education Inservice Project. The Project, a twelve week inservice program, was designed to provide secondary classroom teachers in Chesterfield County, Virginia, with information to work with handicapped students in the least restrictive environment. The relationship between acquisition and retention of information to the satisfaction of individual needs and practicability of the training as perceived by the participants was also studied.

Historically, special education programs for students with handicaps have been excluded, almost entirely, from the regular curriculum. Students found to be handicapped have usually been isolated from the rest of the school and assigned to specially trained teachers. There has been little, if any, contact with nonhandicapped peers or general instructional personnel. Research since the initiation of these special education programs have questioned their success (Reynolds, 1962; Dunn, 1968; Deno, 1970; Mercer, 1970; Bruininks & Rynders, 1971; and Jones, 1972). A transitional time for special education began in the late seventies, as the forces of society demanded that the educational community reexamine education of the handicapped. A force in society advocating

for change in the education of the handicapped can be seen initially in the two landmark cases of: Pennsylvania Association of Retarded Children (PARC) v The Commonwealth of Pennsylvania (1972), and Mills v The Board of Education of the District of Columbia (1971). Through this litigation it was recognized that children with handicaps can benefit from education and acknowledged for the first time the rights of these children to educational services. Legislation followed the example of the courts in demanding changes in educational services for the handicapped. It was with the passage of the Education for All Handicapped Children Act (1975), Public Law 94-142, that the educational rights of the handicapped were fully acknowledged by society. The legislation clearly specified the right of every child regardless of the severity of the handicap to a free appropriate public education. This education was further defined in the subsequent federal regulations specifying that these children should be educated in the least restrictive educational environment, and to the maximum extent appropriate this education should be with their non handicapped peers (Federal Register, Vol. 42, No. 163, Tuesday, August 23, 1977). Removal from the regular education environment for handicapped children is to occur, according to the regulations, only when the nature and severity of the handicap is such that education in the regular class with supplementary aids or services is ineffectual.

If providing education in the least restrictive environment for all children regardless of the severity of their handicap is to be a reality, then a redefinition of teaching responsibilities and the roles of special education and classroom teachers is necessary. This redefinition of educating the handicapped, like other areas affected

by the mechanisms of social change, has both driving forces pushing for this new philosophy while, on the other side, there are restraining forces advocating to maintain the status quo. In the process, educators have found themselves at the crossroads as they attempt to examine, redefine, reeducate, and accept the new philosophy thrust on us by the driving forces of social change. The special education community appears accepting and supporting of the move to education in the least restrictive environment (Keogh & Levitt, 1976; Burrello & Sage, 1979; and Alley & Deshler, 1979). There is evidence that many regular educators objected to the idea of education in the least restrictive environment due to their perceived lack of skills and training in working with handicapped students (Brooks & Bransford, 1971; Joyce, McNair, Diaz, McKibbon, Waterman & Baker, 1977). Gearheart and Weisham (1979) also found that regular teachers were unprepared and unwilling to work with mildly handicapped students in the regular classroom, and concluded that before these teachers will accept working with handicapped students, re-education or training must occur. Chaffin (1974) wrote that resistance by classroom teachers to working with handicapped students in their classes can be overcome if the teachers are prepared to work with all children, handicapped as well as nonhandicapped. He stated that inservice training provides the only alternative for the local school district in preparing teachers already in the classroom. Joyce, et al. (1977) in an extensive study involving over a thousand classroom teachers, concluded that the success of mainstreaming rests with the identification of the teachers' fears and needs in working with the handicapped, and the subsequent development and implementation of inservice

training programs to address these areas. Heath (1974) advocated strongly for the development of cooperative training programs between special and regular education to prepare teachers to understand the demands of working with the handicapped student in the regular classroom. Baker (1979, p. 1) stated, "unless the regular teacher and administrator assume the major responsibility and are accountable for mildly handicapped children placed in the least restrictive environment, the initiative of mainstreaming will fail." Herda (1980, p. 1) placed the responsibility for implementing the demands of Public Law 94-142 on the total school system. She stated that the governance for implementation involves collaboration within the system of both regular and special educators.

While studying the effects of educational programming in the least restrictive environment, researchers have focused a great number of studies on the perceptions, competencies, and attitudes of elementary teachers in working with the handicapped (Boeck & Foster, 1975; Kromer, 1976; Skrtic, 1976; Singleton, 1977; Mathey, 1977; and Carrol & Purdy, 1978). Investigation into teachers' skills, competencies, and training needs at the secondary level has received far less attention with the majority of studies at this level examining vocational education (Martin, 1974; Whiteford, 1977; and Jenson & Schaefer, 1978). The works of Anderson (1977) and Price (1979) are among the few studies of perceived needs and competencies of secondary academic teachers in relation to teaching handicapped students. Anderson (1977) found that secondary teachers rated instructional planning techniques higher than competencies required to diagnose the educational needs of handicapped pupils. Price (1979) reported

that most secondary teachers do not take special education courses, a requirement she felt necessary if mainstreaming at the secondary level was to be effective. The teachers need to be proficient in strategies for planning and executing instructional alternatives for special children. She concluded that even with special education training secondary teachers felt teaching handicapped children was a complex task, and that meeting their instructional needs in the regular class required expertise in developing and implementing special programs within their curriculums.

Alley and Deshler (1979) stated that the secondary teacher faces a unique dilemma in attempting to provide appropriate education for handicapped students in the least restrictive environment. The dilemma involves a feature distinct to the secondary school organization. In the secondary school, emphasis is on acquisition of knowledge in content areas of study, while in the elementary school, the thrust is on basic skills of decoding and computation. It is assumed by the time students reach the secondary level that they have mastered basic skills well enough to use them in acquiring further information. Unfortunately, many handicapped adolescents have not acquired these skills well enough to compete with their peers without supportive services, including accommodations and modifications in teaching strategies. An additional complication at the secondary level is that the curriculum is departmentalized into subject areas and based on specific course content organized around the requirements for Carnegie credits.

At the secondary level, teachers may work with as many as one hundred and fifty different students per day and each student may

stay with a particular teacher only one period day. The elementary teachers, on the other hand, have more time to get to know the students who are scheduled for extended blocks of time or all day with the same teacher.

Demands to provide special accommodations, lack of preparation, fear of the handicapped, and not understanding their educational needs, are often viewed as insurmountable problems by the secondary teacher (Middleton, Morsink & Cohen, 1979; Alley & Deshler, 1979). The teachers, due to inadequate preparation in making accommodations for special students, were often frustrated and even threatened by the students' learning needs (Middleton, Morsink & Cohen, 1979; Marsh, Gearheart & Gearheart, 1978; and Word, Gajar & Gessey, 1980). According to Mitchell (1976) the success or failure of mainstreaming depended on the competence of the resource teacher and the regular teacher and their attitude toward each other and the needs of the students in their classes. If the implementation of Public Law 94-142 was to be successful at the secondary level, intensive inservice efforts, particularly in the development of individual educational programming, are necessary (Skindrud, Warshaw & Male, 1978). Alley and Deshler (1979) pointed out that the learning and adjustment problems encountered by many mildly and moderately disabled adolescents were such that the students should be placed in the regular class with teacher support services including inservice. Deshler, Lourey, and Alley (1979) found that 89 percent of the learning disabled adolescents being served in programs across the country fell into this mild to moderate category, and only 11 percent were considered severely



disabled. They concluded that if placement for this high percentage of handicapped learners at the adolescent level was to be appropriate, then support services and cooperative planning by regular and special education teachers were essential.

Congress also recognized in the passage of Public Law 94-142 that inservice education was required for the acceptance of handicapped children in the least restrictive educational environment. In conjunction with the need for reeducation, was the acknowledgment by Congress that personnel currently teaching in the public school setting lacked expertise with handicapped students. Therefore, provisions requiring that each state design guidelines to assist local education agencies in the development and implementation of inservice training programs for all special and regular education personnel working with handicapped students were included in the regulations (Public Law 94-142; Section 121a-380). The Virginia General Assembly addressed these federal regulations through the Standards of Quality and Objectives for Public Schools in Virginia requiring that each local education agency provide a comprehensive program of personnel development designed to help all personnel to become more proficient in their assigned responsibilities, including the identification of individuals with special instructional needs and classroom planning and management. It is the local school division which is charged with the responsibility for this re-education and which must develop and implement the inservice programs.

To meet these federal and state mandates and to provide this inservice training for secondary teachers faced with educating

handicapped students in their classes, the Secondary Instructional/Special Education Inservice Project was designed by personnel in the Chesterfield County Public Schools. The Project, a cooperative venture between the departments of secondary instruction and special education, was funded by the Virginia Department of Education, Division of Special Education Support Services.

#### Questions to be Addressed in this Study

This study, an investigation of the acquisition and retention of information presented in the Secondary Instructional/Special Education Project, sought answers to the following questions:

1. Did the participants gain information about special education as a result of the training?
2. Was the gain in information demonstrated on posttest I maintained over time after the participants returned to their classroom?
3. What was the relationship between acquisition and retention of information and the satisfaction of individual needs as perceived by the participants?
4. What was the relationship between acquisition and retention of information and the practicability of the training as perceived by the participants?

#### Significance of the Study

In a time when education is faced with increasing demands for accountability on one hand and diminishing financial resources on the

other, it becomes imperative that inservice training projects be designed incorporating theories found to be effective with adult learners and focusing on practices and propositions recognized as making a difference in the results of training programs. Theoretical considerations identified for inservice including the fifteen best practices recognized by Hutson (1979) and the seven propositions proposed by Lawrence (1974) must be evaluated when looking at the design and results of inservice training projects. Evaluation of the project must be on-going and aimed at determining the effectiveness of the programs. Everett (1971, p. iii) wrote that,

just to provide special and regular educators with inservice activities regarding exceptional learners is not enough, as it is also necessary to carefully evaluate the impact of such an activity so that effective inservice programs may be continued where ineffective programs are either improved or discontinued.

The field of evaluation in inservice training is relatively new and in a state of flux (Morris & Fitz-Gibbon, 1978, and Harris, 1980), with evaluation often limited to the immediate rather than the long term effects of the programs. If lasting changes in the field of inservice training are made by modifying participant behavior, then theoretical practices should be incorporated into the design of the projects and the evaluation approach expanded to look at the impact of the training as one moves away from the inservice program and into the teaching situation. This is particularly true at the secondary level where teachers, due to preservice training in strictly content areas and isolation by departmentalization, are often less prepared and more resistant to change in meeting the educational needs of handicapped students.

It was the purpose of this study to evaluate the effects of the Secondary Instructional/Special Education Project as evidenced by both the acquisition of information and retention of that information after the teachers had returned to their classrooms. As research is limited in examining the effects of inservice once the teachers have returned to the classroom, the results of this study should assist other inservice providers in determining if refresher courses would be beneficial. In addition, further research may be warranted to measure retention at other multiple intervals so that trainers can develop a better understanding of when refresher courses are most needed.

Also, as a result of this research, the theoretical basis for designing inservice projects will be explored, and a better understanding of how the relationship of perceived practicability and personal needs satisfaction affects retention of information will be examined. This aspect of the study should allow for the design of more effective and efficient training programs.

#### Limitations of the Study

This evaluation study using a two group pretest-posttest-posttest design was limited by the constraints of the model defined by Campbell and Stanley (1966) and by Fitz-Gibbons and Morris (1968). No comparison or control group was used in the study.

Participants were limited to self selected volunteers. The call for volunteers for the follow-up study was confined to the groups of teachers participating in the Secondary Instructional/Special Education Project offered in the Fall of 1980 and the Spring of 1981 in

Chesterfield County Schools. Participation in the original training was also on a voluntary basis. Since the study is limited to secondary teachers employed in a rural-suburban school community, the findings should not be generalized to secondary teachers in other localities.

#### Definition of Terms

For the purposes of this evaluation study, the following terms with their definitions will be used:

- . Acquisition of Information is the difference between scores on the test administered at the beginning of the course (pretest) and the test administered immediately following the course (posttest I).
- . Group I participants represent volunteers from the Fall 1980 section of the Inservice Project who participated in the follow-up study. The fifty-five participants in Group I were administered posttest II ten months following their participation in the Project.
- . Group II participants represent volunteers from the Spring 1981 section of the Inservice Project who participated in the follow-up study. The sixteen participants in Group II were administered posttest II six months following their participation in the Project.
- . Handicapped Children are defined by the regulations of Public Law 94-142, Sec. 76:37815 (1975) as, "those children evaluated by qualified professionals as being mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, orthopedically impaired, other health

impaired, or children with specific learning disabilities, who by reason thereof require special education."

- . Inservice Project refers to the Secondary Instructional/Special Education Project.
- . Least Restrictive Environment (LRE) is used as defined by Public Law 94-142 to be placement of handicapped students to the maximum extent appropriate with non-handicapped peers. For the purposes of this study at the secondary level of instruction, LRE is interpreted as placement in regular departmentalized subject areas.
- . Needs Satisfaction is a score derived from the sum of the responses to questions 2, 4, 6, 7, 8 and 11 on the inservice questionnaire designed to elicit the participants' feelings of whether the course met their personal needs and addressed their weaknesses in working with handicapped students.
- . Posttest I refers to the second administration of the Project Test given immediately following the completion of the course at the last class session.
- . Posttest II refers to the third administration of the Project Test readministered after the teachers had returned to their classrooms.
- . Practicability is a score derived from the sum of the responses to questions 1, 3, 5, 9, and 10 on the inservice questionnaire designed to elicit the participants' feelings of whether the course assisted them in working with handicapped students.
- . Pretest refers to the first administration of the Project Test

given at the initiation of the class prior to instruction.

- . Project Test refers to a 50-item pencil and paper test administered at three different intervals.
- . Project Course refers to a three hour non-college credit (NCC) course, The Exceptional Adolescent in the Regular Classroom taught in the Inservice Project.
- . Regular Secondary Teachers are teachers departmentalized into subject areas employed to teach students in grades six through twelve.
- . Retention of Information is the difference in scores on the test administered at the completion of the training program (posttest I), and then six months later for Group II and ten months later for Group I (posttest II).

## Chapter 2

### REVIEW OF THE LITERATURE

This review of the literature addressed five areas. The first explored working definitions of inservice education. The second reviewed these definitions as they relate to the current change movement in education created by Public Law 94-142. Recognizing the need for inservice training, section three focused on its effectiveness, pointing out the void in long-term or follow-up studies in inservice training. The fourth section reflected on characteristics of the adult learner in designing follow-up studies. The fifth section briefly addressed the current state of the art in evaluation procedures for inservice training in the area of special education.

#### Definitions of Inservice Training

Hutson (1979) stated that, although the literature on inservice is extensive, most authors agree that "the current status of inservice education is deplorable and that research in inservice is meager."

Meade (1971, p. 211) contended that:

Inservice education--the continual updating of the practitioner in the classroom--is clearly suffering as much from the sins of omission as from those of commission. The list of what has been left undone is long and varied, and in the vacuum created by these failures, often trivial and inconsequential substitutes have flourished. What should be a vital component of teacher preparation has been allowed to remain piecemeal and haphazard. What should inspire teachers to maximize their potential is too often regarded by education management as either an onerous burden or an incidental ritual.



Edelfelt and Lawrence (1974, p. 16) summarized the state-of-the-art by stating that "inservice education has been the weakest and most hazardous component of teacher education."

Even the definition of inservice differs among practitioners in the field. While there are definite similarities, the terminology is inconsistent fluctuating between terms such as inservice education, training, professional development, staff development, and continuing education, to name a few. At times this inconsistency in terminology seems to cause confusion and misunderstanding (Hutson, 1979 and Harris, 1980).

In defining inservice, Harris (1980, p. 3) stated that inservice education means "any planned program of learning opportunities afforded to staff members of schools, colleges, or other educational agencies for the purpose of improving the performance of the individuals in already assigned positions." Bush (1971, p. 44) labeled inservice training as "all that occurs after the point of full initiation into professional practice." Rubin (1978, p. xiv) modified his view from inservice labeled as "corrective" to encompass the concept of professional development. He defined inservice as "continued professional development for reflection, for readjusting tactics to shifting social situations, and for utilizing new processes and procedures." Palmer (1978, p. 215) saw inservice as "a tool to mold better teachers by improving their knowledge, providing ways to help them improve their effectiveness in the classroom and by instilling in them a desire to do a better job of teaching." Tyler (1971, p. 14) summarized inservice as a function of the schools faced with the job of implementing and accepting new programs and tasks generated from pressures outside the

system. He did not see it as a way to "shape" teachers, but rather he viewed the major purpose as "aiding the school in implementing new educational programs by helping teachers to acquire understanding, skills and attitudes essential to the roles they are to play in the new programs." He viewed teaching as constantly changing and continually developing tasks responsive to the needs and shifts of educational philosophy and social priorities. Jackson (1971, p. 21) conceptualized inservice education in two ways. He viewed it as a defect model predicated on the assumption that something was wrong with the way practicing teachers presently operated and that the inservice was "to set them straight--to repair their defects, so to speak." While Jackson's other point of view was not to repair a personal teaching inadequacy but rather to seek greater fulfillment from the profession as a practitioner through becoming "progressively more sensitive to what was happening in his classroom and to support his efforts to improve on what he was doing" (p. 28). Roth (1975, p. 4) defined inservice as "a process for extending or continuing the professional development of educators while they are employed full time with a particular school district." He further viewed inservice as a way of increasing teaching skills beyond the preservice preparation and found that a systematic approach to improving skills needed in the changing classroom was necessary for more effective teaching. According to Bishop (1976, p. 1) a great deal of responsibility and a heavy burden is attached to inservice education and staff development by calling them the "career counterparts" to preservice training. He demanded that inservice provide professional educators with the responses to answer changing social and political demands and provide

for "change, renewal, quality education, and professional competence." He stated that staff development was not merely for maintaining skills, but for growth and continued learning assuming the individual's needs for change and "renewal." Cruickshank, Lorish and Thompson (1979, p. 27) suggested moving from a compensatory to complementary view of inservice education which, rather than merely compensating for shortcomings in preservice education, would provide for further personal and professional growth of teachers.

While the terminology surrounding inservice education has fluctuated and authors have offered their variations of the definition, extensive historical reviews spanning the one hundred and thirty years of inservice (Kupisch, 1975; Tyler, 1971, and Harris, 1980) indicate that inservice education has always been reactive: It is reactive to changes often involving social or political forces outside of education. These forces or pressures have made inservice education a continuing process in response to the changing climate of the school as an agent of society (McPherson, 1970; Kupisch, 1975, and Harris, 1980).

#### Inservice Training in Special Education

During the past two decades judicial decisions such as Pennsylvania Association for Retarded Children v The Commonwealth of Pennsylvania 343 F. Supp. 279 (E. D. Pa 1972); Mills v The Board of Education of the District of Columbia, 348 F. Supp. 866 (D. D.C. 1971); and subsequent legislative mandates, specifically Public Law 94-142, The Education for All Handicapped Children Act of 1975 and Section 504 of Public Law 93-112, The Rehabilitation Act of 1973 have guaranteed handicapped individuals access to a free appropriate public education.

This guarantee of free appropriate education for all children regardless of the severity of their handicaps has created for public education a period of turmoil. Public education is faced with implementing and accepting the social changes in educating the handicapped created by these laws and court orders. This period in education has been considered by the National Education Association as "the most revolutionary development in public school education since the 1954 Supreme Court decision (NEA, 1978, p. 7)." Senator Harrison A. Williams, Jr., the chief sponsor of Public Law 94-142 characterized the Act as "the most important education legislation enacted since the landmark Elementary and Secondary Act of 1965" (Babarcoui & Clelland, 1977, p. VII). Herda (1980, p. 2) stated that "perhaps no federal involvements in the school reflect the underlying timbre of emerging national trends as much as do the problems and potential benefits of P.L. 94-142 implementation."

The problems and potential benefits are involved in the basic premise of the legislation and access to public education which rests with provision of services in the "least restrictive environment" (Public Law 94-142, [Sec. 121a.550(b)(2)]). The education of handicapped children in settings with their nonhandicapped peers, often called "mainstreaming" "could affect every classroom of the million public school teachers in the United States" (National Advisory Council on Education Professions Development, 1976, p. 1). Schleifer and Griffen (1978, p. 12) stated that integrating handicapped with nonhandicapped children would have "an impact on everyone involved-- children, parents, school teachers, administrators, and all other professionals who serve the public schools." The call for inservice training to implement this sweeping change has been extensive

(Public Law 94-142; Brooks and Bransford, 1971; Mitchell, 1976; Joyce, et al., 1977; Lambie, 1977; Skindrud, Worshau and Male, 1978; Baker, 1979; and Altman, 1979). McCarthy (1981, p. 1) stated that "laws do not fulfill themselves; the fate of legislation often rests in the hands of state and local educational personnel." She found that the state of readiness of the personnel in the field with the responsibility for implementation had not kept pace with the legal activities and that the crux of the problem rested in this inadequacy. McCarthy advocated "massive in-service efforts to prepare teachers, administrators, board members and parents to work together in translating legal mandates into actual practice."

Heller (1978) pointed out that the move to educate handicapped students in the regular classroom has led to a shift in accountability and a change in responsibility from the special educator to the classroom teacher. He, like others, recognized this shift would not be accepted or beneficial without cooperative inservice training.

The need to prepare both general and special educators in a collaborative effort must be given high priority if the new roles created by educating handicapped students in the least restrictive environment is to result in quality education for all students (Baker, 1979, p. 1). Herda (1980, p. 1) pointed out that the efforts to implement Public Law 94-142 and Section 504 of Public Law 93-112 required education to re-examine its current structure and to accept the challenge that implementation rests upon involvement of "all educators," not just those in special education. She points out that "ownership" of the responsibilities is system-wide for both general and special educators and, in her opinion, the development of

highly comprehensive inservice programs may be the most significant role education agencies play in the implementation of Public Law 94-142, if the impact of change is to be accepted. In a report to Congress, the Comptroller General of the United States recommended that "if handicapped children were to benefit from educational placement in regular classes, regular educators must understand their needs and must know how to apply instructional procedures to effectively deal with such needs" (1976, p. 8). The National Advisory Committee on the Handicapped supported this view stating "that it is important for all education personnel to learn more about methods for teaching the handicapped" (1976, p. 8). The Committee further recognized that education for handicapped students is a joint responsibility between the special and general educator. While recognizing the need for training to work effectively with the handicapped, the Comptroller reported that classroom teachers did not have training in special education and that the National need for providing such training was critical (Comptroller, p. 9).

In secondary schools, the changes required by the law may seem insurmountable to classroom teachers and the resistance to change has caused communication barriers between special and regular educators (Middleton, Morsink & Cohen, 1979; Alley & Deshler, 1979; Nielsen, 1979; Marsh & Gearheart, 1978; and Word, Gajar & Gessey, 1980). To break down these barriers and resistance, cooperative collaborative planning in education of the handicapped is particularly important at the secondary level.

Effectiveness of Inservice Training

Lawrence (1974) using the conceptual framework identified by Louis Rubin (1969) in Improving In-service Education identified seven propositions or approaches to the management of inservice activities that influence the success rates of the training. Lawrence, in findings based on a review of the research for ninety-seven inservice education programs, indicated support for the influence of these seven theoretical propositions. He determined that programs incorporating four or more of these propositions had a strong record of achieving their objectives and showing a significant positive change. The findings of his study supported the seven propositions for effective inservice training, which included:

1. differentiated training or "individualized" instruction as opposed to the same activities for all participants;
2. instruction that placed the teacher in an active rather than passive role involving participants in constructing and generating materials and ideas;
3. activities that emphasized demonstration and practical use and feedback rather than dissemination of information and storing up of ideas;
4. teacher sharing and team planning involving providing mutual assistance to each other as opposed to single or individual activities and working alone;
5. programs that encompass overall staff development efforts rather than "one shot" programs that are not a part of a total plan;
6. emergent design with active involvement by teachers in selecting goals and objectives based on needs as contrasted to programs in which all activities are preplanned; and
7. self initiated and self directed teaching activities. (Lawrence, 1974, pp. 14-16)

Lawrence concluded in summary that his findings were clear:

"the inservice programs that have the best chance of being effective

are those involving the teachers in planning and managing their own professional development activities, pursuing personal and collective objectives, sharing, applying new learnings, and receiving feedback" (p. 17). His findings indicated a high degree of success for programs with a balance between knowledge and practice, while he did not identify any one "medium of instruction as broadly inappropriate or distinctly inferior in the accomplishment of the objectives of inservice education" (p. 10).

Hutson (1979) in his work for the National Inservice Network concluded using a form of "meta-analysis" (p. 1), fifteen best practice statements in designing inservice training. The best practices identified by Hutson (1979) included:

1. Decision making should proceed as an authentic collaboration of inservice clients, providers and any other relevant constituencies.
2. The incentives for participating in inservice programs should emphasize intrinsic professional rewards.
3. Inservice programs should be explicitly supported at the outset by district and building administrators.
4. Outside agencies/consultants may be helpful in supportive roles.
5. The implementation strategy for inservice programs should include continual professional growth activities and the local development of materials, within a framework of collaborative planning by participants.
6. The design of inservice programs should be complex and ambitious.
7. Inservice programs should be planned in response to assessed needs.
8. Inservice trainers should be competent.
9. The school site should be the locus of inservice activities.



10. The evaluation of inservice should be a collaborative venture whose primary purpose is to assist with planning and implementing future inservice programs.

11. The content of inservice should be derived from assessed needs.

12. Inservice content should be directed toward changing teaching, not student behavior.

13. The process of inservice education should model good teaching.

14. Inservice education should follow a developmental, not a deficit model.

15. Inservice should be an integral part of the total school program. (pp. 16-17)

He emphasized that for the delivery of inservice to be effective specific attention was required and should be directed toward implementation strategies. Among the strategies, problem solving skills as needed in the content area were justified as being "congruent with professional learning/teaching styles" (p. 13). His review of the research also supported a process for the delivery of inservice training which modeled good teaching. Hutson described good teaching as meaning to: "encourage active listening, use self-instructional methods, allow great freedom of choice, involve demonstrations, supervised trails and feedback, and be adaptive to real life conditions of adults" (p. 14).

Glass and Meckler (1972) described an intensive summer workshop for preparing elementary teachers to work with mildly handicapped children in their regular classroom. The workshop goals were to "equip elementary teachers with diagnostic, remedial, and behavioral management skills that would increase their ability to successfully instruct mildly handicapped children in regular classrooms" (p. 152). Teachers participating in the workshop worked directly with children

in academic instruction, in activities to increase group participating skills, and in understanding their behaviors and actions. In addition, the teachers were involved in problem solving, formal instruction, feedback and planning sessions, as well as parent meetings. Pre- and post-measurement was conducted using the Minnesota Teacher Attitude Inventory (MTAI) and a self report inventory to evaluate effects of the workshop on the participants. The findings indicated that trainees, as a result of participation, perceived themselves as more competent in teaching and more attracted to mainstreaming children in their classrooms.

Yates (1973) studied effective and cognitive changes in teachers who participated in a continuing education program for regular classroom teachers. He found that the experimental group obtained significantly more information concerning special education than the control group as evidenced by five measures performed before and after the training.

A teaching model of a behavioral approach to prescriptive programming was developed and evaluated by Wilson (1975). The model, containing five basic components, was introduced to teachers and administrators who participated in an intensive two-day training session. Using a criterion referenced test on a pre- and posttest basis, the results demonstrated that the participants had made significant gains in knowledge immediately following the inservice.

Boeck and Foster (1975) evaluated the effectiveness of a learning disabilities inservice program presented to regular classroom teachers. The four week workshop dealt with an overview of learning disabilities as well as appropriate methods and materials. Administering the Learning Disabilities Information Inventory before and after the

training, they concluded that significant posttest differences existed favoring the experimental group.

Chandler (1975) investigated the effects of inservice training for high school teachers and their ability to apply instructional skills in reading. Needs were identified by the volunteer participants on a self-report inventory and addressing those needs, twelve workshops were conducted over a three month period. Evaluation of videotaped classroom simulations found a significant difference favoring the experimental group.

Sawyer and Taylor (1968), in an extended inservice project designed to retrain junior high and fourth grade teachers in selected teaching practices over a one and one-half year period, reported that significant observable behavior changes were apparent as a result of the training. It was further emphasized in the results that the greatest gains were made in areas where teachers could immediately apply what they had learned in their own classrooms.

In a review of related inservice literature, including programs designed for school administrators and for teachers of adult learners, general patterns emerged. With school administrators, workshops were shown to be most effective in knowledge gain rather than attitude change. When participants were evaluated immediately following the programs, more changes were noted in their knowledge of the content than in a change of attitude about the information (Watson, 1977; Sofish, 1976; and Essex, 1979).

Zinn (1975) reviewed over four hundred teacher training programs in the area of adult basic education. With the exception of a few studies, effectiveness was evaluated on immediate changes in either

knowledge or attitude. She concluded that participants usually made significant gains in knowledge about adult basic education and increased their technical skills and competencies for teaching older students. Little emphasis was placed on attitude change. No patterns of effectiveness were noted for method of instruction, participant involvement in program planning, or the length or size of the workshops.

In summary, these studies consistently report high degrees of success in effecting immediate cognitive change in information. The studies have not addressed, however, the long term impact of such training. Shuell and Lee (1976) stated that education must consider memory and transfer as the two most important aspects of learning. They concluded that "learning takes place when a relatively permanent change in behavior or performance occurs and the result is caused by practice or experience rather than from physiological factors" (p. 4). If individuals cannot remember the material and apply newly learned knowledge to other situations within their environment, then the learning evidenced during instruction is useless.

#### The Adult Learner and Instruction

According to Kuhlen (1970), providing education to adult learners is not unlike providing education to learners at other levels with the exception that adults appear to be more aware of their own needs. To meet these needs, the instructor of adult learners must respond with relevant materials and curricula. Through reviews of the literature, Brunner (1959), Knowles (1970), and Cross (1981) found that the basic ability to learn remains essentially unimpaired throughout life, although motivation and interest in participation may decline with age.

Cross (1981) found that the time required for learning new material increased with age. However, the speed of learning should not be considered a hindrance to the adult learner. On the contrary, Moenster (1972) and Shuell and Lee (1976) reported that current evidence as to the rate of learning and memory supports the premise that regardless of the speed of learning, if material is learned well it will be retained. There are differences, however, in the memory of young and old learners. Children will learn nonsense syllables or verses to prove to themselves or to others that they can do it, while adult learners require that the material be meaningful (Shuell and Lee, 1976, p. 167). Cross (1981) also reported that young and middle-aged adults were high in goal directedness and self-confidence. It seems that adult learning has a problem centered orientation in which the learner wants to put into practical application what he has learned (Knowles, 1978, p. 58).

McKeachie (1970) found motivation to be a key factor in adult learning and memory. He stated that adult students were more likely to learn what they wanted to learn than material in which they were not interested or did not perceive as useful (p. 117). His review led him to the conclusion that there is no "universally effective" (p. 114) teaching method in working with adults because each class of adults is composed of individuals with unique needs, expectations of themselves and the course, and skills. He stressed the importance of the teacher's role in knowing the students, their backgrounds, similarities and differences and then planning accordingly. In a review of instructional techniques used with adult learners, he reported that, in general, adults learn through active participation and feedback.

Practicing skills in a relevant environment provided the students with the motivational factor linking knowledge with results.

Randal (1978) concluded from his literature review that adults must want to learn and will learn only when they feel a need to do so. He stated that, although adults responded to a variety of teaching techniques and methods, they preferred an informal environment, learned by doing, and that skills practiced immediately and continually used in their environment resulted in a much higher retention level.

Cross (1981, p. 230) concluded from studies by the developmental theorists that adults learn because they are spurred on by transitions which are an accepted part of life, and that the change "creates the challenge and stimulation that promote learning." For many adult learners, updating technical skills, keeping abreast of the latest advances, or career mobility is linked with the effectiveness of adult education (Cross, 1981, p. 242).

#### Evaluation Status of Inservice

Extant literature supports Morris and Fitz-Gibbon (1978) in their contention that evaluation is in a state of flux, particularly in inservice. While the need for evaluation is not questioned by the designers of inservice programs, evaluation and monitoring are not given high priority and few school systems carry on careful evaluation of inservice projects (Lawrence, 1974; and Rude, 1978). Inservice education should be directed at changing teaching behaviors in the classroom. Accordingly, those behaviors should be evaluated in the classroom (Hutson, 1979). Moellenberg (1978, p. 14) stated that, in his philosophical opinion, it is "clearly unreasonable to expect

major, long term modifications of complex attitudes, behaviors, or even bodies of knowledge built up over years, on the basis of a few hours of instruction." Another issue he addressed as confronting the evaluator is time and the duration of effects that might be produced. He cautioned that some information, i.e., facts, might show immediate gain and then rapid decline following the training, while other activities involving practicability and use might not show immediate gain, but lead to more positive effects after longer intervals. Moellenberg (1978, p. 16) noted that some researchers evaluated inservice gains through recording change in actual teaching behaviors. Their conclusions, however, were that this relation was tenuous because change was assessed immediately after the program and before implementation in the classroom.

Evaluating the impact of an inservice program is difficult, and evaluating special education inservice programs seems to be no different (Allen, 1978; and Harris, 1980). Allen stated that because of the nature of schools as stable institutions often resistant to change, only under the best circumstances can well planned and executed inservice have a significant impact over a period of time (p. 26).

Altman (1979), in the process of developing a comprehensive system of special education inservice, found current evaluation designs to be as unique as the various training situations themselves, with most using "primitive types of evaluation" (p. 41). He urged inservice providers to seek specificity and objectivity in conducting evaluations. He also cautioned providers not to expect "too much" from evaluation and pointed out the inherent limitations of program evaluation stating that

we can not realistically expect to fully uncover the relationships between our interventions (specific programs of inservice) and our intended outcomes of improved services to handicapped students. Precision and control of variables necessary to consistently pinpoint the relationship between inservice practices and outcomes doesn't exist (p. 43).

He concluded that "ultimately however, the overall inservice efforts at any particular site should have long-term payoffs visible in attitude and performance change among the personnel involved (p. 44).

Baker (1979) advocated that school districts apply a problem solving approach in designing special education inservice programs. He stated that "well reasoned efforts at planned improvement are based on realistic assessment of needs, followed by goal setting, implementing the action plans, and evaluating the results" (p. 11). In the evaluation stage he identified the need for both formative or summative evaluation. Formative evaluations would be used to gain continuous feedback that would allow for revision and modification as necessary. The summative evaluation assesses the consequences of the program.

Evaluation should be considered one of the most important aspects of the developmental operations of general inservice programs (Bishop, 1976; and Harris, 1980). Weiss (1972, p. 6) stated that the purpose of evaluation research must be for utility and that its function is "to answer practical questions of decision makers about program effectiveness."

#### Summary

The changes brought about by Public Law 94-142 have shifted the responsibility for educating handicapped children to a cooperative



arrangement between the special education and the regular classroom teacher. If the classroom teacher, especially the secondary teacher, is to meet these new responsibilities and demands, inservice education must be provided. The statute and subsequent regulations for Public Law 94-142 clearly specify that:

Each annual program plan must include a description of programs and procedures for the development and implementation of a comprehensive system of personnel development which includes:

(a) The inservice training of general and special educational instructional, related services, and support personnel;

(b) Procedures to insure that all personnel necessary to carry out the purposes of the Act are qualified (as defined in § 121a.12 of Subpart A) and that activities sufficient to carry out this personnel development plan are scheduled; and

(c) Effective procedures for acquiring and disseminating to teachers and administrators of programs for handicapped children significant information derived from educational research, demonstration, and similar projects, and for adopting, where appropriate, promising educational practices and materials developed through those projects.

(20 U.S.C. 1413(a)(3).)

Even though inservice education is mandated and is not a new concept, the evaluation of the effects once the teacher returns to the classroom have not generally been explored. Evaluation of inservice projects is difficult and often only conducted immediately following the program.

## Chapter 3

### DESIGN OF THE STUDY

This follow-up study investigated the acquisition and retention of information presented in the Secondary Instructional/Special Education Project conducted in Chesterfield County, Virginia, Public Schools. A two group pretest-posttest-posttest design was used. Retention of information was measured after the teachers had completed the Inservice Project and returned to their classrooms. In addition to the acquisition and retention of information, the relationship of practicability and needs satisfaction to the acquisition and retention of information also was investigated. Inservice practices used in the design and implementation of the Project also were reviewed.

#### Secondary Instructional/Special Education Inservice Project

This project was conducted in Chesterfield County Public Schools. Chesterfield County is a rural-suburban community located in Central Virginia adjacent to Richmond, Hopewell, Colonial Heights and Powhatan. The county has shown a recent population growth reflected in the school system by an influx of students and, in many schools, insufficient classroom space. During the 1980-1981 school year, the student population was 34,000. Approximately 10.5% of those students had been identified as handicapped and were receiving special education services

in various programs located within the forty elementary and secondary schools. Special education services were provided through a decentralized administrative model with the principals being responsible for coordinating special education and related services in their schools. Of the forty schools in Chesterfield County, sixteen were secondary and served a student population of 17,392. There was a secondary teacher corps of 1,162 for the school year 1980-1981.

To meet federal and state personnel preparation requirements by providing inservice training to secondary classroom teachers faced with working with handicapped students, Chesterfield County School Personnel designed the Secondary Instructional/Special Education Project. The Inservice Project was designed as a cooperative venture between the departments of secondary instruction and special education. The developmental process used in designing the Inservice Project is described in the following sections and outlined in Figure 1.

In conceptualizing the Project, the Project Director (the researcher) and Coordinator identified a set of basic assumptions or characteristics about the target population. These assumptions about secondary classroom teachers, the target population for the Project, were formed based on reviews of the literature, individual experiences as secondary special education teachers, and from discussions with instructional supervisors, secondary principals, and classroom teachers. The assumptions about the target population used in the Project were identified as:

1. Secondary teachers were prepared in subject area orientation not in techniques for working with the handicapped and were responsible for as many as 150 students per day.

Identified Need: Mandate to Develop Comprehensive System of Personnel Development

Target Population: Secondary Classroom Teachers

Personnel Responsible: Project Director and Coordinator

Endorsement: High Administrative Support

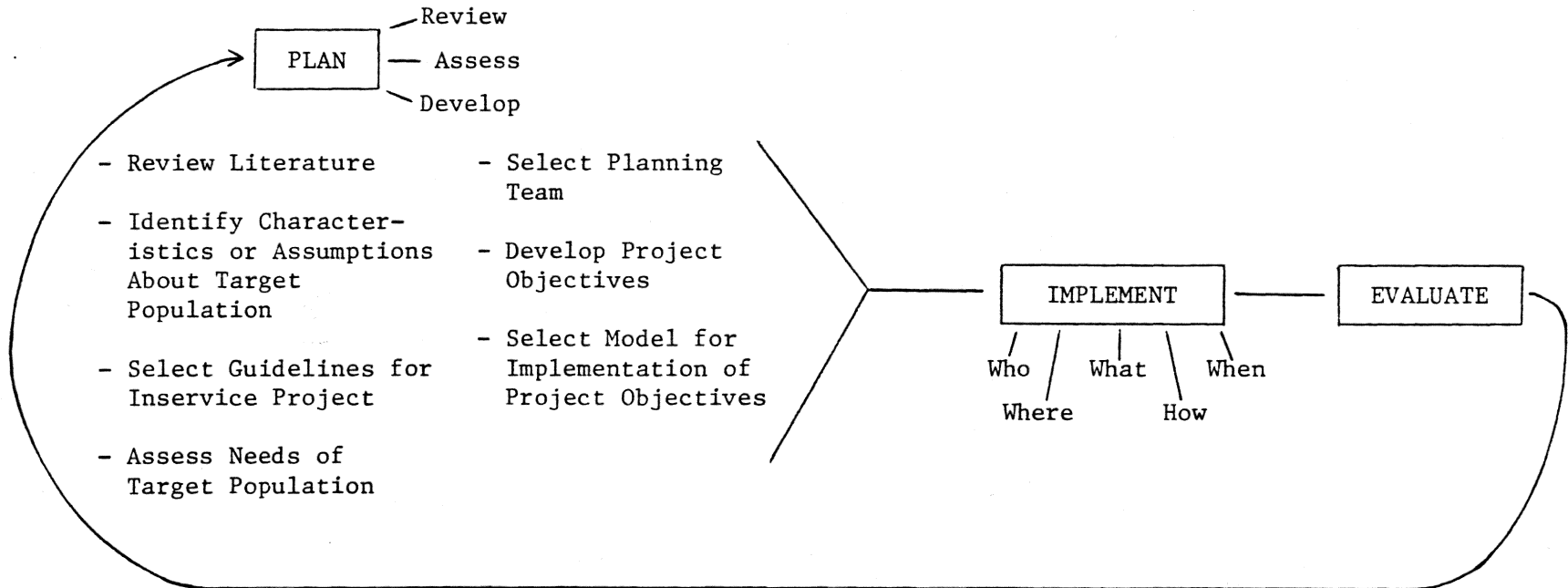


FIGURE 1: OUTLINE OF STEPS USED IN THE DESIGN OF THE SECONDARY INSTRUCTIONAL/SPECIAL EDUCATION PROJECT

2. Secondary teachers were resistant to change and the idea of teaching handicapped students as part of their regular classes.

3. Few inservice Projects in working with the handicapped had been designed and used with secondary teachers.

4. Past inadequacies and poorly taught inservice programs affected teacher perception of inservice training and the delivery of this training if it was to have positive results had to be the "best" the participants had received.

5. Information presented to the Secondary teachers had to be practical and relevant to their overall teaching, if the ideas presented were to have any impact in their classrooms.

6. Administrative support was critical to the acceptance and use of the material on the curriculum.

7. The design of the inservice had to be specially targeted for the secondary teaching population resulting from cooperative planning.

8. Secondary teachers must want to participate in the training.

By acknowledging these assumptions, it was recognized, in the early stages of the Inservice Project's development, that the information presented had to be practical. The Inservice Project design needed to provide the teachers with immediate success in meeting "felt" needs. The instruction had to overcome inadequacies of former inservice training blending information or a knowledge base about handicapped students with practical solutions for classroom instruction.

Using the identified assumptions along with available literature on effective inservice education and adult learning theories, guidelines were selected for the Inservice Project. These guidelines served as a

foundation for the development of the Inservice Project and as criteria for the generation of objectives, selection of the content and presentation or delivery of instruction. The guidelines selected as a foundation for the Inservice Project were:

1. Inservice education should be based on assessed needs, strengths and weaknesses of the participants (Hutson, 1979 and Skrtic, Knowlton & Clark, 1979).
2. Inservice education should be planned cooperatively in collaboration with participants (Harris & Bessent, 1969; Lawrence, 1974; Hutson, 1979 and Skrtic, Knowlton & Clark, 1979).
3. Inservice education should provide different activities and ways for participants to accomplish individual goals. A variety of methods and techniques are acceptable as no one technique has been identified as the only or best method. Instruction should be matched to the needs of the participants (McKeachie, 1970; Lawrence, 1974 and Skrtic, Knowlton & Clark, 1979).
4. Inservice education should challenge and motivate participants by involving them as active learners incorporating problem solving, demonstrations, feedback and interaction among participants (Knowles, 1970; McKeachie, 1970 and Lawrence, 1974).
5. Inservice education should give teachers credit for being knowledgeable, skilled professionals and activities should be used to blend their backgrounds and expertise with new knowledge (Tyler, 1971; Bishop, 1976 and Hutson, 1979).
6. Inservice education should be a part of an on-going staff development plan supported by school administrators (Harris & Bessent, 1969; Lawrence, 1974 and Hutson, 1979).

7. Inservice education should demonstrate a balance between practical application and theory (Lawrence, 1974).

8. Inservice education should be delivered by competent instructors, modeling good teaching techniques and using the school site as a locus for training (Lawrence, 1974; Hutson, 1979 and Skrtic, Knowlton & Clark, 1979).

9. Evaluation of inservice education should be an on-going process that is designed to look at the impact of the training as well as the program strengths and weaknesses (Weiss, 1972 and Skrtic, Knowlton & Clark, 1979).

Having acknowledged a set of assumptions about the target population and having identified guidelines for implementation of inservice programs based on the literature in the field, an Inservice Needs Questionnaire (See Appendix A) was sent to a sample of the secondary classroom teachers. Seven hundred thirty secondary classroom teachers received the questionnaire which sought information to assist in the planning of the training program. Fifty-two percent returned the questionnaire. Of those responding, 80.2% had no previous courses in special education. In addition, 81.3% stated the need for further training in planning and implementing alternate teaching methods, learning activities and modifications in instructional materials to meet the educational needs of handicapped students; 81% expressed the need for methods of assessing the learning strengths and weaknesses of the students; 63% requested information on the characteristics of educationally handicapped students, and 60.9% indicated the need for training in behavior management techniques. Given several alternatives on the questionnaire for the presentation of the inservice material,

84.2% of the teachers responding preferred a three hour non-college credit (NCC) course taught during the school year. Non-college credit courses, designed by local school systems, require sixteen hours of instruction per credit hour and may be applied toward recertification requirements in the Commonwealth of Virginia. Courses must be approved by the State Department of Education prior to the granting of credit.

In addition to assessing classroom teacher needs through the Inservice Needs Questionnaire, a planning team was established. The planning team included administrative and supervisory personnel, department chairmen representatives and the Project Director and Coordinator. Planning team members were provided background information on the purpose of the Inservice Project, the identified assumptions and guidelines and the results of the Inservice Needs Questionnaire. The responsibilities of team included: reviewing the background data, selecting objectives for the Inservice Project, recommending an instructional model and providing administrative support and guidance.

The department chairmen representatives and instructional supervisors identified: behavior management techniques, design and implementation of alternative teaching strategies and methods, development of appropriate learning activities, modification of instructional materials and the identification of handicapped students as inservice topics that would benefit classroom teachers the most in working successfully with handicapped students. For secondary classroom teachers to work more effectively with handicapped students in the regular classroom, the instructional representatives along with the administrative team members identified the need for better



communication between classroom and special education teachers. The administrators also acknowledged the need for the classroom teachers to be familiar with alternative instructional methods. Department chairmen representatives shared the following teacher concerns about working with the handicapped: lack of preparation--classroom teachers are not qualified to work with the handicapped, classes are too large to accommodate the needs of the handicapped, time does not permit planning or communication for meeting the needs of the handicapped and what should be done about ignoring other students in order to provide extra services or accommodations for the handicapped.

The results of the Inservice Needs Questionnaire, the input from the planning sessions as well as the review of literature provided focus to the planning team in determining Project objectives. The Project objectives provided the basis for delivery of the training. The objectives identified were:

1. To develop an understanding of Public Law 94-142 and its implications for classroom teachers
2. To develop an understanding of Special Education procedures and programs in Chesterfield County
3. To develop knowledge of the characteristics and identification of handicapped students
4. To develop skill in utilizing various behavior management techniques in the classroom
5. To develop an understanding of and skill in identifying environmental and student variables that affect learning
6. To develop skill in modifying and adapting classroom materials and teaching methods for handicapped students.

To meet the identified Project objectives and to adopt the preferred method of instruction selected by 84.2% of the secondary teachers responding to the Inservice Needs Questionnaire, a three hour non-college credit course was designed (see Appendix B). The project course, *The Exceptional Adolescent in the Regular Classroom*, was organized and taught by the Project Director and Coordinator with the assistance of other Chesterfield County special education personnel and local university consultants. The twelve week course was taught after school hours. Each session was an hour and half in length. In addition to class sessions, a one day workshop was required. The workshop was taught by an outside consultant from a local university and the Inservice Project instructors. Substitutes were provided for the teachers and lunch was served to all participants compliments of the Inservice Project.

The course offered on a semester basis was available to any secondary teacher in Chesterfield County Schools. Participation was voluntary. The course was announced through notices posted in each secondary school as well as announcements made by principals at faculty meetings (see Appendix C).

The text Teaching the Learning Disabled Adolescent: Strategies and Methods by Gordon Alley and Donald Dreshler (1979) was used in conjunction with the course. Copies of the text were provided to each secondary school's professional library. Course requirements included: participation in all class sessions, reading of outside materials and textbook, participation in class discussions, completion of three experiential in-school activities and a pre-post test examination. A score of 70% accuracy was required on the posttest

for the receipt of three hours non-college credit (NCC) to be used toward recertification requirements in the Commonwealth of Virginia.

Administrative support was acknowledged in the guidelines as essential for success of the Inservice Project. To solicit this support, administrative sessions were held with the Superintendent and support staff prior to the initiation of the Project. An outline and overview of the proposed Project course along with the assumptions, planning team, needs assessment results and guidelines were discussed with the Superintendent. The Superintendent and Project Director presented the Project objectives, philosophy and the implementation plan to the administrative and supervisory team including building principals. The Superintendent endorsed the Inservice Project and principals were encouraged to recommend participation to their faculty members. The Superintendent, Assistant Superintendent, Director of Secondary Instruction and Instructional Supervisors were visible throughout the Inservice Project and attended sessions of the Project Course. The administrators also joined class members at the workshop luncheon endorsing the program in an introductory welcome.

The instructors, aware that no single strategy had been identified as the only effective method of presentation with adults in inservice education (McKeachie, 1970; Lawrence, 1974 and Hutson, 1979), selected a variety of instructional activities and techniques. The alternative strategies used by the instructors were pointed out to class members. Correlations were drawn between the use of these techniques with adolescents in teaching secondary school subjects and the presentation of information within Inservice course. The instructors drew on the

expertise of the class members to direct them toward changing their teaching behaviors in the demonstration of alternative teaching strategies. Participants were actively involved in instruction and information was presented with a balance between theory and application of practical strategies. The foundation of instruction used in the Project is illustrated in Figure 2. In the delivery of the inservice sessions, the instructors were enthusiastic and organized in the presentation of content information. Encouragement and positive reinforcement was a part of the instructional plan. Techniques were demonstrated to class members throughout the Project.

Class activities were designed to give class members an opportunity to apply theoretical concepts and information presented in the Project (see Appendix D). The activities were structured to ensure class members a choice in using what was important in their individual teaching situations. The initial class activities focused the identification of classroom and student variables affecting a learning situation. Through this activity participants were involved with special education teachers in their schools. The involvement of the teachers using a central plan for communicating about a handicapped student was designed to open the doors of communication and to introduce a framework for on-going involvement. The second activity involved the use of behavior management techniques introduced in the workshop. Teachers were, again, to select the situation appropriate to their teaching in completing the activity. The third class activity presented teachers with the challenge of modifying materials or instructional techniques useable for their level and subject area.

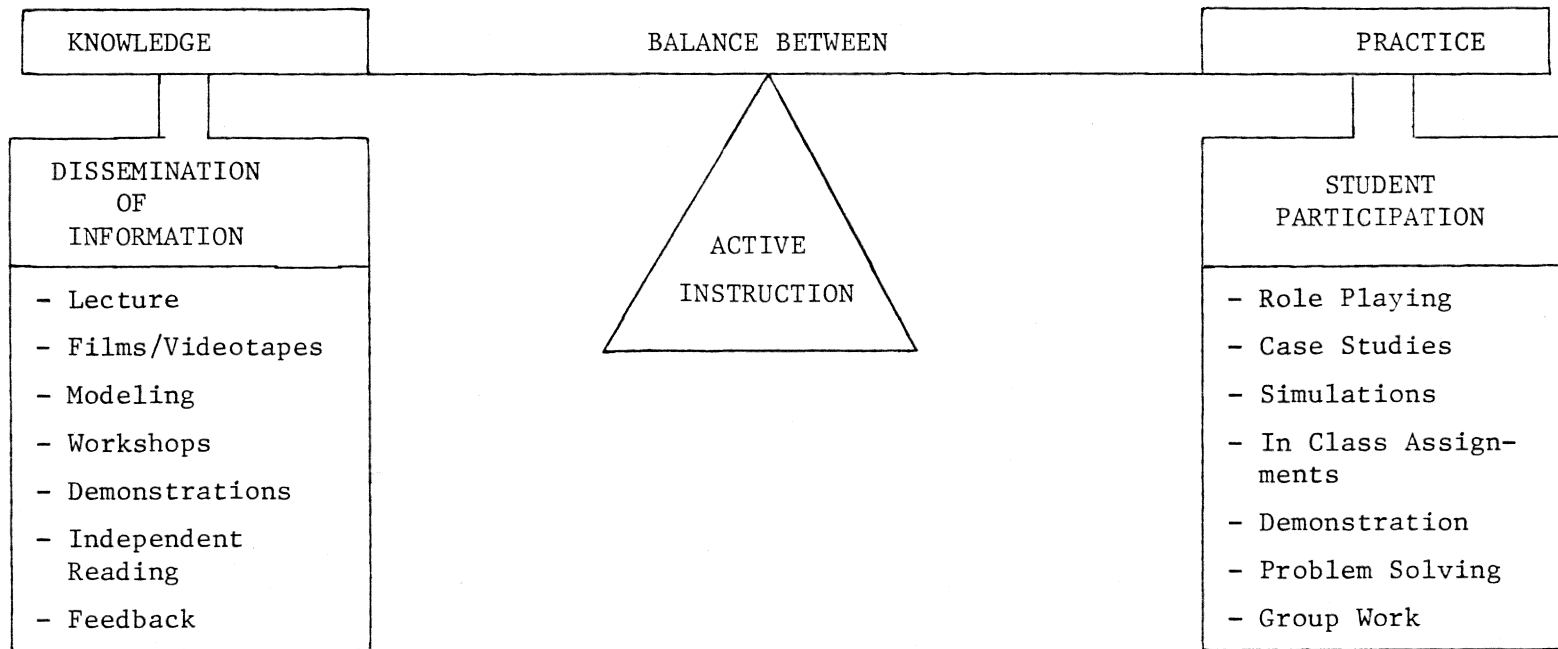


FIGURE 2: FOUNDATION OF THE SECONDARY INSTRUCTIONAL/  
SPECIAL EDUCATION PROJECT

This activity resulted from demonstrations and presentations providing the background for adaptation. Each assignment was discussed as part of the class by both the instructors and with peers in small group work. Class members were provided immediate feedback on their assignments and suggestions for modifications were presented. An open dialogue was established in the class.

During each class session, participants were faced with programs that modeled good teaching techniques as described by Hutson (1979). These techniques included:

encouraging active listening, by permitting participants to become involved in discussion, including problem solving and case study reviews that challenged their thinking and attitudes. The instructors spent time before and after class listening to the students and getting to know their views and perceptions. As described by McKeachie (1970), knowledge of the participants, their backgrounds, unique needs, likes and dislikes were considered important in the delivery of the instruction and in instructional planning.

using self instructional methods, by involving participants in active rather than passive learning activities allowed for the development of strategies and alternative teaching methods for use within their individual classrooms. Interaction and group problem solving was encouraged within the class.

allowing greater freedom of choice and adapting to real life situations, by encouraging participants to select activities that were classroom and student based. Participants were asked to implement self selected projects involving assessing students

within their classes, working out behavior management programs, and adapting materials and tests. Selection of the projects were dependent on the individual needs of the teachers.

involving demonstrations, by implementing a variety of teaching strategies the participants were introduced through demonstration or example to alternative teaching and learning activities relevant and practical for use with secondary students. Role playing and simulations were also a part of the demonstrations pulling on the expertise and background of class members.

providing supervised practice and feedback by involving participants in several trials and activities to encourage their growth and understanding of the concept. All class assignments were demonstrated with models provided, class assignments were also reviewed and discussed with feedback in class by both the instructors and through peer discussion.

To assess the instructional effectiveness of the Inservice Project, a test, with a maximum high score of 50, was constructed to measure class members' knowledge of instructional areas (see Appendix E). The test items used to measure the participants' knowledge are illustrated in Figure 3. Items were selected based on procedural aspects and definitions in Public Law 94-142, Chesterfield County and the Commonwealth of Virginia's procedures and regulations for implementation of Public Law 94-142, and instructional areas related to student and environmental variables, learning styles, theories of behavior management and alternative strategies for the modification of materials and instruction for handicapped learners.

COURSE OBJECTIVES	EVALUATION QUESTIONS	TEST QUESTIONS
1. To develop an understanding of P.L. 94-142 and its implications for classroom teachers	Have teachers increased their knowledge of P.L. 94-142?	1, 2, 6, 7, 8
2. To develop an understanding of special education procedures and programs in Chesterfield County	Have teachers developed an understanding of special education procedures used in Chesterfield County?	3, 4, 5
3. To develop knowledge of characteristics and identification of handicapped students	Can teachers recognize characteristic descriptions of handicapped students?	9, 10, 11, 12
4. To develop skill in utilizing various behavior management techniques in the classroom	Can teachers state strategies for utilizing behavior management techniques? Can teachers develop and implement a behavior management program in their classroom?	16, 17 * Class Assignment
5. To develop an understanding of and skill in identifying environmental and student variables that affect learning	Have teachers developed an awareness of variables affecting learning? Can teachers identify individual student variables and determine their influence in an identified environment?	13, 14, 15 * Class Assignment #1 * Class Discussion
6. To develop skills in modifying and adapting classroom materials and teaching methods for handicapped students	Have teachers increased their knowledge of instructional modifications appropriate for identified instructional weaknesses? Are teachers able to design and implement modifications of instruction in a classroom assignment?	18 * Class Assignment #3 * Class Discussion

FIGURE 3: ANALYSIS OF PROJECT TEST AND CLASS ASSIGNMENTS



All class members were asked to evaluate the Project's effectiveness at three different intervals during the instruction. The first assessment was conducted immediately following the one-day behavior management workshop. In this assessment, participants were asked to evaluate the content of the workshop and manner of presentation using a five point scale with five being excellent and one being poor. Participants were also asked to describe the most helpful part of the workshop and how the workshop could be improved (see Appendix F). The second assessment by the class members was conducted at mid-semester in the Project course after the completion of the one-day workshop and the first class assignment. The mid-semester assessment of the Project course's effectiveness asked class members five yes or no questions. Space was provided following each question for participants to discuss their responses (see Appendix F). The third assessment requested of all class members was the evaluation completed in the last session at the end of the course. In this assessment, class members were asked to evaluate the Project on: information and course content; organization of the course; printed handout materials; methods of presenting course content; and overall course rating using a five point rating scale with five being excellent and one being poor (see Appendix F).

#### Sample for the Follow-up Study

The subjects for this follow-up study were solicited by the researcher from secondary teachers in Chesterfield County Public Schools who had participated in the Secondary Instructional/Special Education Project in the Fall of 1980 and the Spring of 1981. Class members were sent a letter informing them of the follow-up study and requesting their

participation (see Appendix G). The class members were asked to indicate their willingness to participate by returning a response card to the researcher.

Seventy-eight letters were sent to the class members in fall, 1980 session in the first mailing. Of those, fifty-two responses were returned, forty-one indicated a willingness to participate in the follow-up and eleven declined.

Eighteen letters were sent in the first mailing to class members in the spring, 1981 session. Of those eleven responses returned, ten indicated a willingness to participate in the follow-up study and one refused. To ensure that all class members had received the initial correspondence regarding the follow-up study, a second letter was sent one week following the deadline to teachers who had not responded (see Appendix K).

A follow-up letter was mailed to the twenty-six class members from the fall, 1980 session not responding in the first mailing. Of those twenty-six recheck letters, fourteen were returned indicating a willingness to participate, eight declined, and four did not respond to the second mailing.

Seven follow-up letters were sent to the members of the spring, 1981 session. Six were returned indicating a willingness to participate and one decline was received. Principals of the secondary schools also were sent an introductory correspondence explaining the summative evaluation study being conducted regarding the inservice project (see Appendix J).

Subsequently, two volunteer groups participated in the follow-up study. Participants were administered the project test at a third interval and were asked to complete the inservice questionnaire.

For Group I participants, administration of the test at a third interval was ten months following the completion of their inservice program. Group II participants in the follow-up study were administered the test six months after the project. Group I was comprised of participants from the class conducted in the fall of 1980. The original class, also volunteers, had ninety-one members. Of those ninety-one, seventy-eight were still employed in Chesterfield County secondary schools in the fall of 1981. Of those seventy-eight employed, fifty-five volunteered for the follow-up study representing 70.5% of the participants still employed in Chesterfield.

Group II, the Spring 1981 class, had twenty-two original members. Of those twenty-two members, eighteen were still employed in the county in the fall of 1981 and sixteen or 88.9% volunteered for the follow-up study.

In an effort to secure responses from all participants in the original inservice program, those seventeen teachers no longer employed in the county were contacted with a letter by the researcher requesting their participation. From the first correspondence, two were returned as not deliverable. A second mailing was made to the remaining fifteen out of county class participants. This included a copy of the Project Test, Inservice Questionnaire and instructions for completing the information along with a self-addressed envelope to the researcher. As a result of solicitation to participate, three of the seventeen teachers no longer employed in the county, or 17.6% of those original class members responded. Because of the small response rate, these responses were not considered in the analysis of data.

Volunteers participating in the follow-up study received a letter thanking them for their cooperation in the study. All research requirements of Virginia Polytechnic Institute and State University, Virginia Commonwealth University and Chesterfield County Public Schools were satisfied with particular emphasis on the rights of the individuals.

### Instruments Used in the Follow-up Study

#### Project Test

A 50-item pencil and paper project test was administered at three intervals in the study. The first administration, the pretest, was given at the initiation of the class prior to instruction. The second administration, posttest I, was repeated immediately following the completion of the course at the last class session. The project test was then readministered as posttest II six months following the course to participants in Group II and ten months following the course to Group I participants.

The test was constructed to measure the participants' knowledge as specified by the Project objectives relating to special education. Questions included true and false, multiple choice and short answer selections (see Appendix E).

#### Inservice Questionnaire

A questionnaire using a Likert scale composed of four response categories per item was designed to provide convenient measures of perceived practicability and individual need satisfaction so as to determine if there was a significant relation between these factors and retention (see Appendix G). Practicability scores represented the

participants' feelings of whether the course offered functional, concrete and practical methods for helping handicapped students in their classrooms. The extent teachers perceived that the course satisfied their needs in relation to working with handicapped students was measured by the needs satisfaction scores. With the intent of ensuring reliability of the instrument, ten items were developed for the practicability subscale and six items for the needs satisfaction factor. These items were randomly distributed throughout the questionnaire to force the respondents to consider each question individually rather than to respond according to a response pattern. Reverse wording of some items, as well as reverse order of selected responses, also were used to reduce the possibility of response patterns. Responses were coded for analysis with 4 representing a high rating and 1 a low rating.

The higher the practicability score from a total score of 40 points on the Inservice Questionnaire the more practical, concrete and functional the teacher's perceptions of the course. The higher the need satisfaction score from a total score of 24 points on the Inservice Questionnaire the greater the teachers' perceptions of the course satisfying their individual needs.

To ensure that the questionnaire was a valid measure of the concepts or factors of perceived practicability and satisfaction as defined in this study, a field test was completed with the questionnaire. The field test was conducted with twenty randomly selected secondary teachers who did not participate in the inservice project. Half of the teachers were asked to complete the questionnaire under the assumption that they participated in the inservice training course

which they felt satisfied their needs in relation to working with handicapped students and which provided functional, concrete, practical, and effective methods for helping handicapped students in their classrooms. The other ten teachers were asked to complete the questionnaire under the assumption that the course was unsatisfying in meeting their needs and that the ideas and teaching methods were impractical. The response categories were coded 1, 2, 3, and 4 with 1 being the most negative response and 4 being the most positive response. The first group, those assuming needs satisfaction and practicability, responded with all 3s and 4s indicating their understanding of the questions, while those in the second group scored all responses as 1s and 2s with no inconsistent responses. Because both groups scored consistently within the appropriate categories as specified in field test no changes in the statements on the questionnaire were made. If, however, either group had scored inconsistently the items displaying those inconsistent results would have been revised to make them more understandable.

Also, demographic information was solicited on the Inservice Questionnaire about the participants. This information included age, number of years teaching, degree level, subject area teaching, number of previous special education courses, and the number of handicapped students worked with during their career. This demographic information was used to describe the population participating in the study.

#### Interview Schedule

An interview schedule was designed to provide a second assessment of perceived practicability and needs satisfaction and, at the same

time, to judge the concurrent validity of the questionnaire. The interview schedule containing demographic information and questions regarding practicability and needs satisfaction questions was conducted with ten percent of the participants in each group who scored highest on posttest II and ten percent who scored the lowest on posttest II (Appendix H). The individual interviews were conducted with participants one week following the completion of the third administration of the project test.

#### Analysis and Treatment of Data

Analysis of variance using treatments-by-subject design (Lindquist, 1953) was employed to compare the scores on the pretest, posttest I and posttest II for each group. When the  $F$  was found to be significant in the analysis of variance, the Duncan's Multiple-Range Test was used for making multiple comparisons. An item analysis looking at the frequency of correct responses was used to analyze what information was acquired and retained by participants.

The Pearson Product-Moment Correlation (Ferguson, 1966) was applied to determine if there was a statistically significant relationship at the .01 level between acquisition of information and practicability and between acquisition of information and needs satisfaction. Likewise, Pearson Product-Moment Correlation was used to determine a relationship between retention for Group I, ten months following the inservice training and for Group II, six months after the inservice and the factors of practicability and needs satisfaction for each group. Analysis of data was conducted at the .05 level of significance. Interview data were reviewed and conclusions presented along with

information collected during the Project course.

Demographic data collected provided the researcher with an overview of the population characteristics. No statistical analysis was attempted on the information.



## Chapter 4

### ANALYSIS OF DATA

The analysis of data presented in this chapter is divided into two sections. The first section is based on evaluation data collected during the initiation of the Inservice Project. These data collected from class members at three intervals in the Project were used by the Project Director and Coordinator along with school administrators in the on-going planning of the Project. Information collected from these assessments was also submitted, in part, to the State Department of Education in the Commonwealth of Virginia for continuation of Grant funds. The second section is focused on the follow-up study conducted after the completion of the Inservice class. The data are based on responses of volunteers from two separate classes of the Secondary Instructional/Special Education Project.

### PROJECT EVALUATION DATA

Class members were asked to assess the instruction at three intervals during their participation in the Inservice class. The first of these assessments was conducted at the completion of the one day behavior management workshop (See Appendix F). The assessment asked participants to evaluate the workshop's content and manner of presentation using a five point scale with 5 rated excellent and one

poor. Two open ended questions sought participants' assessment of the most useful part of the workshop and suggestions for improvement. Results for questions one and two are presented in Table 1 for the Fall class.

TABLE 1  
EVALUATION OF BEHAVIOR MANAGEMENT WORKSHOP (FALL)

Questions	5	4	3	2	1
	N	%	N	%	
1. Content of the workshop		96.7%	3.3%		
2. Manner of presentation		94.5%	5.5%		

Responses to questions three and four were reviewed and categorized by the instructors. The categorized responses of the teachers' perceptions of the most useful part of the workshop and the suggestions for improvement are illustrated in Figure 4. To better understand the teachers' perceptions of the workshop, excerpts from ten percent of the evaluations selected at random from both fall and spring classes are illustrated in Appendix G.

Responses for members of the Spring, 1981 class for questions one and two are reported in Table 2.

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RANK ORDER OF TEACHER RESPONSES FOR QUESTION 3

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The most helpful aspect of the workshop

Practical, concrete, suggestions that can be used in the classroom

Recognition of teacher influence over controlling behavior including antecedents and consequences

Demonstration and manner of presentation

Explanation of the terminology and definitions associated with behavior management

Interaction with peers and group feedback

Recognition of the difficulties experienced by teachers

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RANK ORDER OF TEACHER RESPONSES FOR QUESTION 4

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The workshop could be improved by

No suggestions keep the workshop the same

Facilities (more space, no smoking, warmer room)

More time

More strategies

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FIGURE 4

EVALUATION OF BEHAVIOR MANAGEMENT WORKSHOP  
QUESTIONS 3 & 4 FALL, 1980

TABLE 2

## EVALUATION OF BEHAVIOR MANAGEMENT WORKSHOP (SPRING)

Questions	5	4	3	2	1
	N	%	N	%	
1. Content of the workshop		86.4%		13.6%	
2. Manner of presentation		95.5%		4.5%	

Illustrated in Figure 5 are the perceptions of the class members in the Spring section identifying the most helpful aspect of the workshop and suggestions for improvement.

In reviewing the assessments on the behavior management workshop, class members in both sections highly endorsed the workshop in content and manner of presentation. Class members acknowledged the practical, concrete and realistic suggestions for behavior management. The ideas presented were considered workable by the secondary level teachers. The teachers also recognized a new awareness of teacher influence over controlling behavior as an important aspect of the workshop. This awareness included the identification of antecedents and consequences on student behavior in the classroom. In looking at how to improve the workshop the largest number of responses indicated no changes should be made. The fall section addressed physical facilities as needing improvement and class members in both sections requested additional time and more management strategies. Class members expressed positive reactions to the organization, content and delivery of the workshop.

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RANK ORDER OF TEACHER RESPONSES FOR QUESTION 3

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The most helpful aspect of the workshop

Practical, concrete, suggestions that can be used in the classroom

Recognition of teacher influence over controlling behavior including antecedents and consequences

Interaction with peers and group discussion

Demonstration and manner of presentation

Explanation of terminology and definitions associated with behavior management

---

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RANK ORDER OF TEACHER RESPONSES FOR QUESTION 4

---

The workshop could be improved by

No suggestions keep the workshop the same

More strategies

More time

Facilities

---

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FIGURE 5

EVALUATION OF BEHAVIOR MANAGEMENT WORKSHOP  
QUESTIONS 3 & 4 SPRING, 1981

A second assessment of the instruction was conducted at mid semester with class members. The five item questionnaire asked participants to explain either a yes or no response to the questions (See Appendix F). From the fall section, 96.7% responded to mid semester assessment and 95.5% of the class in spring answered.

In reviewing the responses of the class members to mid semester assessment, 90.9% of those responding from the fall section and 95.2% of the spring class perceived a better understanding of the legal requirements of Public Law 94-142 and the needs of learning disabled and emotionally disturbed students. Those teachers responding negatively expressed uncertainty in knowing the needs of handicapped students while they perceived that they had a better understanding of the law.

The use of behavior management techniques in the classroom were acknowledged by 94.3% of the members of the fall section and 90.5% of the spring teachers as being effective in modifying student behavior, attitude and work habits. The strategies, evaluated as practical by the teachers following the behavior management workshop, were seen as having a positive effect on students.

In evaluating the first assignment, 63.6% of the fall class members reacted positively stating communication, personal understanding and the development of a process in establishing an on-going relationship with special education teachers as important. Those who felt the assignment had not been of value to them in working with handicapped children listed the amount of time to complete the assignment and paperwork as detrimental. Of the teachers in the spring section, 76.2% responded favorably to the assignment being of value to them in working with handicapped students. Like the teachers in the

fall section, paperwork load and time were felt to be prohibitive to using the plan on a regular basis.

An attitude change, as a result of class participation, was identified by 72.7% of those in the fall and 71.4% in the spring. Teachers who stated that class had not affected their attitude emphasized, by their comments, that they had always had empathy and an interest in working with handicapped students.

Ninety-five percent of the class members in both sections indicated that they would recommend this class to their fellow teachers. To better understand the teachers' rationale for their assessment, excerpts of the explanations are illustrated in Appendix G.

A third assessment followed the completion of the instruction. Class members were asked to evaluate the instruction using a five point rating scale with five considered excellent and one poor. Seventy-eight (86.7%) of the fall section responded. The data presented in Table 3 portrays the responses on the third assessment at the completion of instruction for 86.7% of the fall section.

TABLE 3  
THIRD ASSESSMENT OF INSERVICE PROJECT

	5	4	3	2	1
Information/course content	62.8%	28.2%	6.4%	2.6%	
Organization of the course	70.5%	25.6%	2.6%	1.3%	
Printed handout materials	73.1%	23.9%	3.0%		
Methods of presenting course content	60.3%	30.8%	6.3%	2.6%	
Overall course rating	59.0%	37.2%	2.6%	1.2%	

Those participating in the spring section were also asked to rate the course immediately following the training. The reactions of the twenty-two participants to the course are reflected in Table 4.

TABLE 4  
FINAL ASSESSMENT OF INSERVICE PROJECT

	5	4	3	2	1
Information/course content	81.8%	18.2%			
Organization of the course	81.8%	18.2%			
Printed handout materials	90.9%	7.1%	2.0%		
Methods of presenting course content	72.7%	27.3%			
Overall course rating	81.8%	18.2%			

Class members in both the fall and spring sections consistently rated the components of the Project as high. Ratings were excellent to high in all instruction areas including: content, organization, printed materials, and presentation techniques. Comments reflected an overall satisfaction with the course and the usefulness of the materials and ideas in the classrooms.

#### Test Score Data

The Project test, with a possible top score of 50, was administered to the course participants at the first class session (pretest) and again at the last class meeting (posttest). For the 91 teachers who took the class during the fall of 1980, the mean pretest score was 23.83, with scores ranging from 4 to 46. The mean posttest score was 47.49, with scores ranging from 35 to 50.



The mean pretest score for the 22 teachers who took the course in the Spring of 1981 was 14.82 with scores ranging from 6 to 28. The mean posttest score was 48.36, with scores ranging from 43 to 50.

#### FOLLOW-UP STUDY PROJECT DATA

The analysis of data presented in this section is based on the responses of volunteers from two separate classes who participated in the follow-up study of the Secondary Instructional/Special Education Inservice Project. The follow-up study was conducted after the teachers returned to the classrooms and investigated four questions.

#### Responses From Group I Participants

Group I consisted of the fifty-five secondary teachers (70.5%) of the original class conducted in the Fall of 1980 who responded to the follow-up study ten months after the completion of the training. Demographic information revealed that 35 of the 55 participants (63.6%) had a Masters degree in Education. Thirty-nine (70.9%) stated that they had no previous special education course work. Forty-four (80.0%) had worked with handicapped students in their teaching careers. Fifty teachers (90.9%) were tenured teachers and had been teaching more than three years. Ten subject areas from ten secondary schools were represented with 16 of the participants teaching English.

Group I participants were administered a pretest at the beginning of the inservice training, the same test at the completion of the course (posttest I), and again ten months following the training (posttest II). The mean pretest score for the 55 participants in Group I was 21.60 with the range of scores from 4 to 46 points; posttest I

scores ranged from 31 to 50 points with a mean test score of 47.10; posttest II ten months following the training showed a mean of 43.07 with scores ranging from 31 to 50. The comparison of mean scores for the pretest, posttest I, and posttest II is set forth in Figure 6.

An item analysis of the questions on the Project Test was conducted for each objective. Questions were grouped by objective and the percent of the total possible score for each set of the objective questions was analyzed. Figure 7 focuses on Objective 1 addressing the teachers' knowledge of Public Law 94-142. The results indicated that group I participants had some information about the law prior to instruction (65.5%), but that their knowledge increased and material was retained following the course. Figure 8 illustrates Objective 2 and the teachers' understanding of special education procedures used in Chesterfield County Schools. On this set of questions, participants in Group I again had background information (65.4%). Results indicate that knowledge of the procedures was increased and retained by participants.

In Objective 3, the results demonstrated in Figure 9 indicate that participants in Group I were aware of characteristics of handicapped students (70.5%), but that following instruction knowledge was increased and retained by participants. Objective 4, focusing on teachers' skills in developing and utilizing behavior management techniques is demonstrated in Figure 10. Teachers in group I demonstrated very little initial understanding in this area (19.5%). At the completion of the course participants' scores demonstrated significant increase in information (99.3%) in behavior management

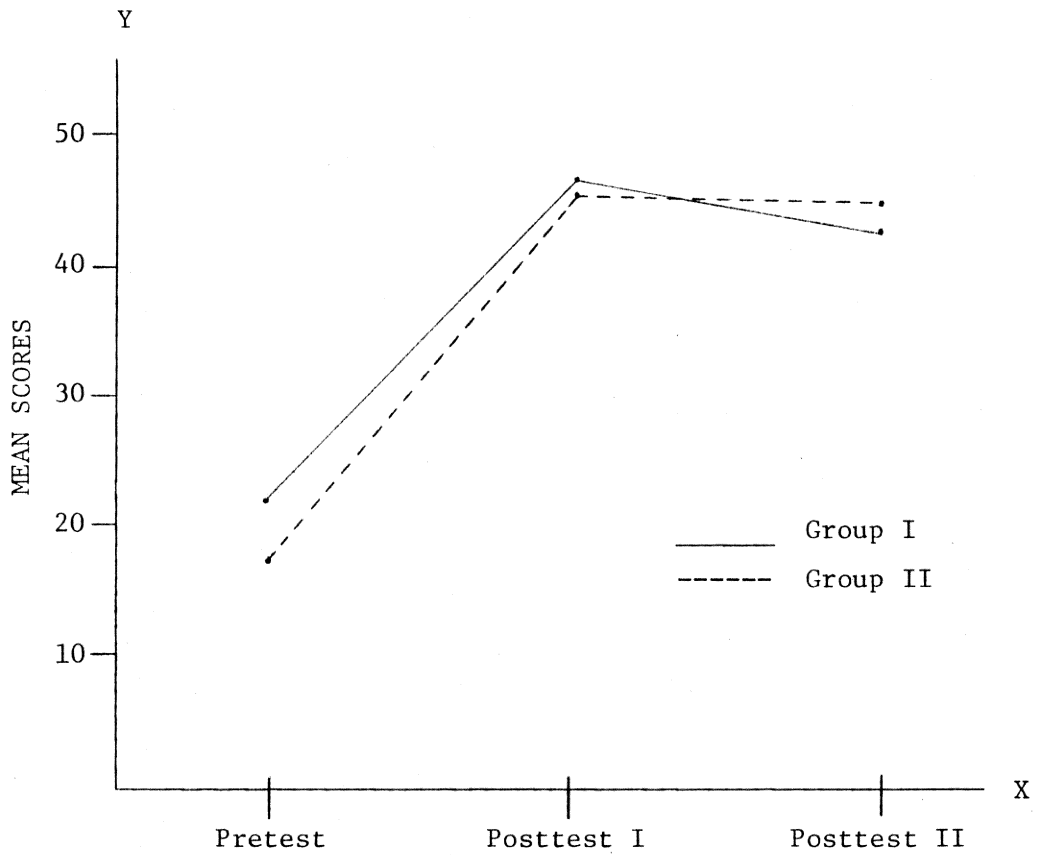


FIGURE 6

MEAN SCORES FOR PRETEST, POSTTEST I AND  
POSTTEST II FOR GROUP I AND GROUP II

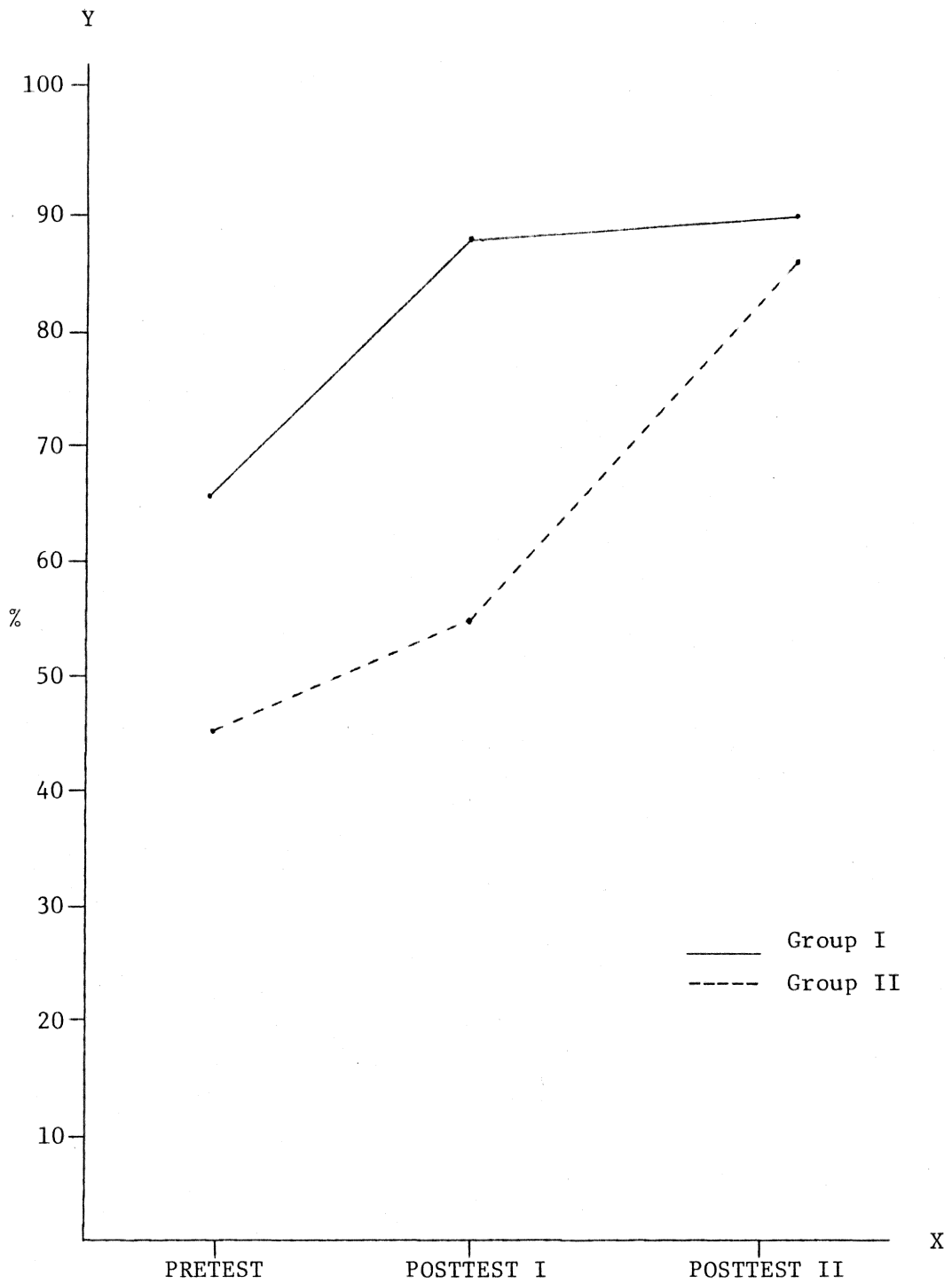


FIGURE 7

PERCENT OF TOTAL POSSIBLE SCORES BY GROUP FOR  
QUESTIONS 1, 2, 6, 7, AND 8 ON PRETEST, POSTTEST  
I AND POSTTEST II ADDRESSING OBJECTIVE 1

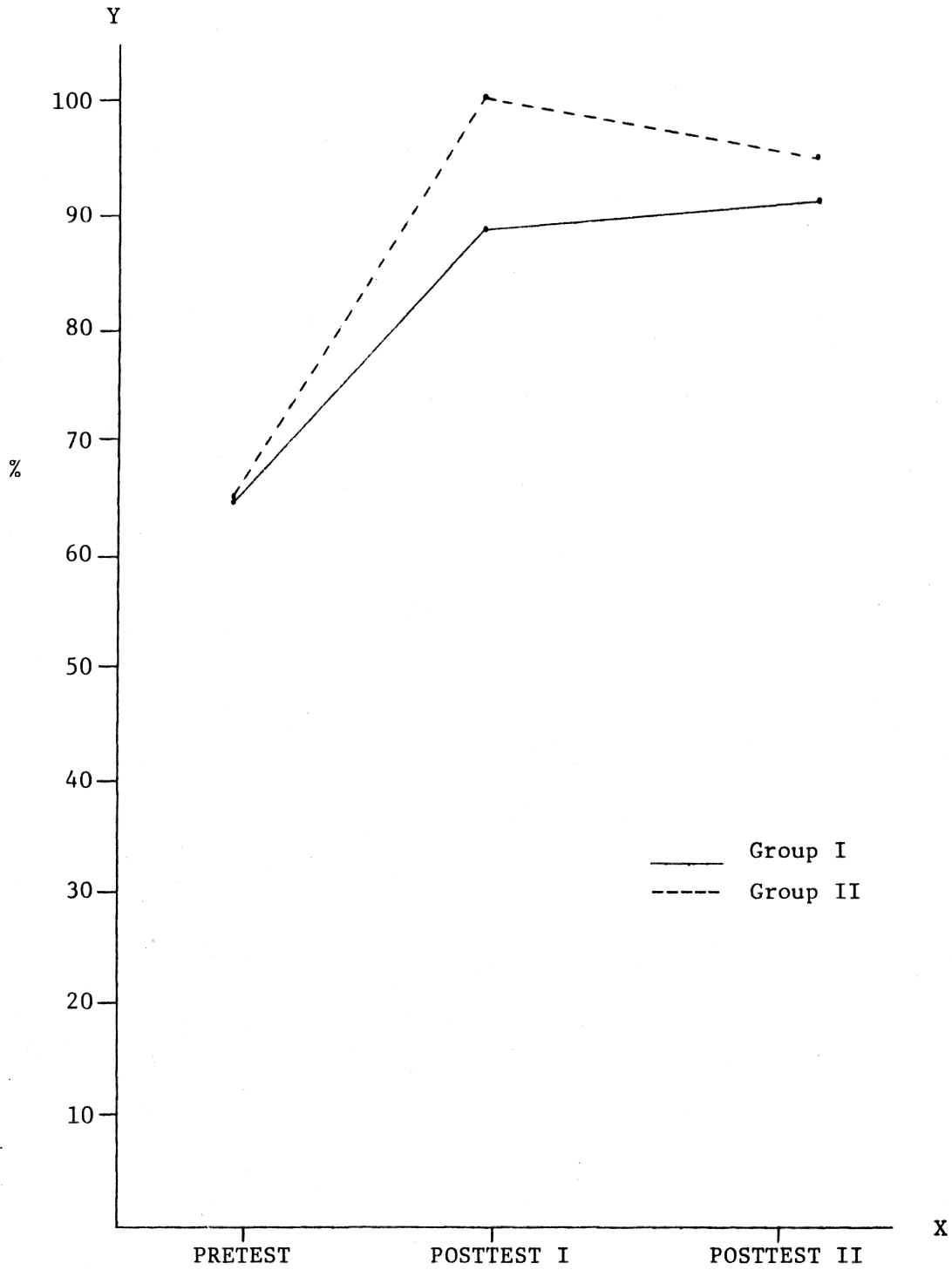


FIGURE 8

PERCENT OF TOTAL POSSIBLE SCORE BY GROUP FOR  
QUESTIONS 3, 4, AND 5 ON PRETEST, POSTTEST I  
AND POSTTEST II ADDRESSING OBJECTIVE 2

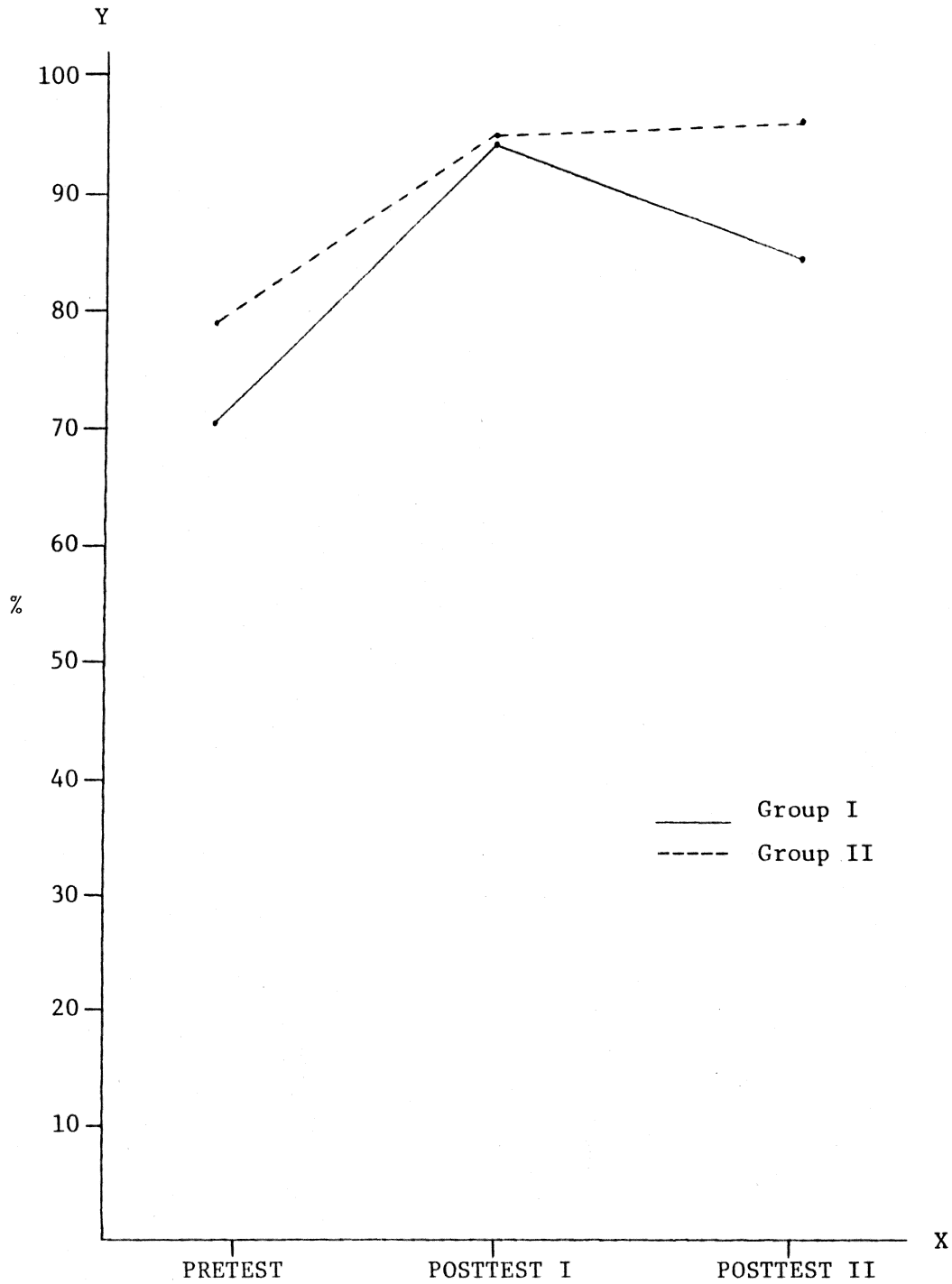


FIGURE 9

PERCENT OF TOTAL POSSIBLE SCORE BY GROUP FOR  
QUESTIONS 9, 10, 11 AND 12 ON PRETEST, POSTTEST  
I AND POSTTEST II ADDRESSING OBJECTIVE 3

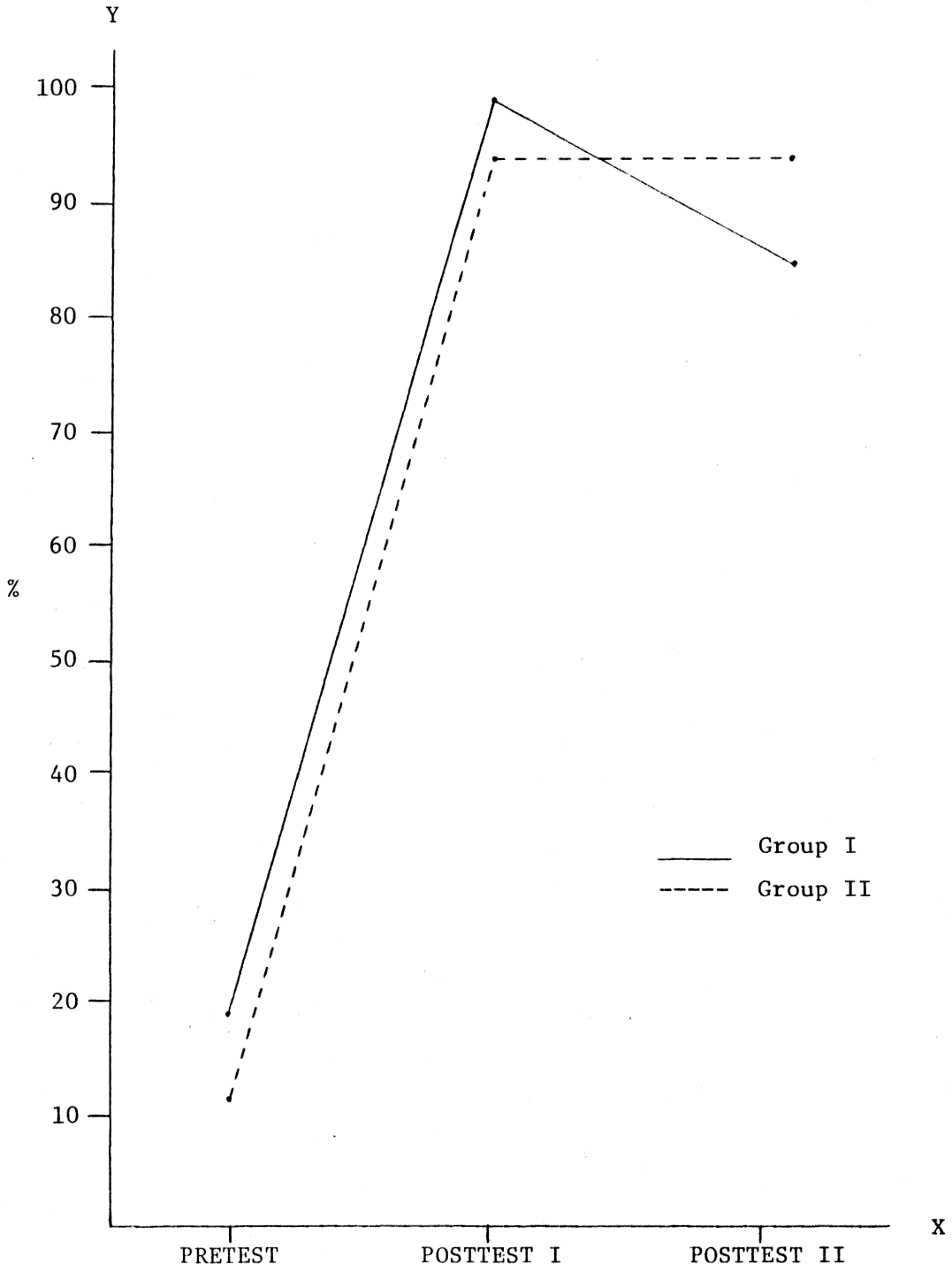


FIGURE 10

PERCENT OF TOTAL POSSIBLE SCORE BY GROUP FOR  
QUESTIONS 16 AND 17 ON PRETEST, POSTTEST I  
AND POSTTEST II ADDRESSING OBJECTIVE 4

techniques. A 79.8% gain was found, and retention ten months following instruction was measured at 86.0% with a 66.5% increase from the pretest to posttest II. Objective 5, focusing on the teachers' ability to identify environmental and student variables affecting learning is illustrated in Figure 11. Teachers in group I had a 54.8% increase in scores on the pretest (38.4%) to those obtained on the posttest I (93.2%). They retained 82.5% of the material for objective 5. Objective 6, illustrated in Figure 12 represents the teachers' skill in modifying and adapting materials which demonstrated a gain of 47.7% in information from the pretest (50.5%) to posttest I. Retention of information was also demonstrated in this area (93.6%).

An analysis of variance using the treatments-by-subjects design determined there was a significant difference between the scores on the pretest, posttest I, and posttest II at the .01 level (see Table 5). Duncan's Multiple-Range Test was then used for making multiple comparisons. There was a significant increase in information as measured at the .01 level of significance between the scores on the pretest and posttest I. Significant increase measured at the .01 level was evident between the pretest and posttest II scores, while a significant decrease in retention at the .01 level was evident in the scores between posttest I and posttest II administered ten months following the training (see Table 6).

Participants also were asked to complete the Inservice Questionnaire. The questionnaire was designed to elicit the participants perception of the practicability and individual needs satisfaction of the training. On the ten items, scores ranged from 26 to 37 in practicability with a mean of 30.80 and a maximum score of 40 points



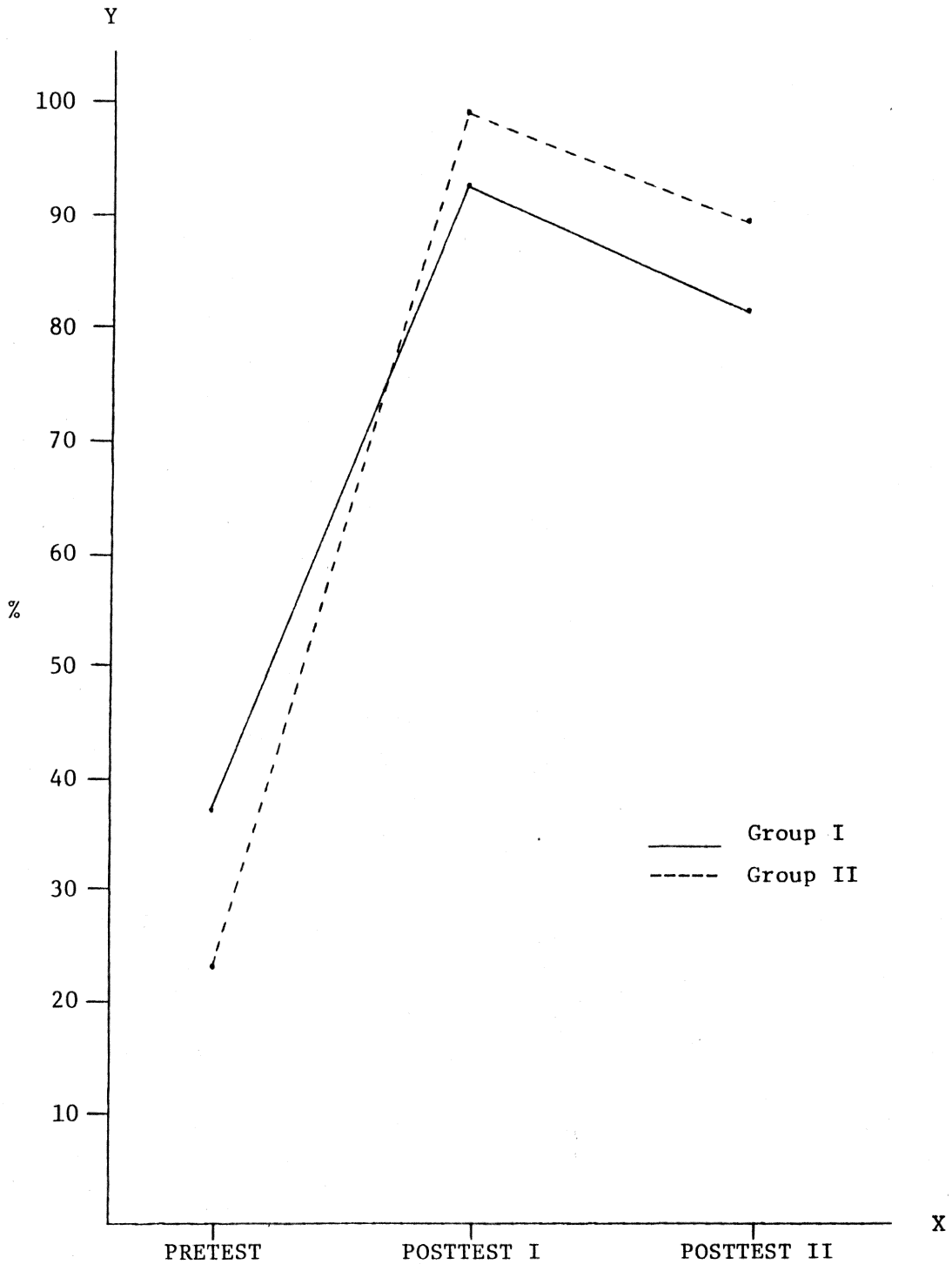


FIGURE 11

PERCENT OF TOTAL POSSIBLE SCORE BY GROUP FOR  
QUESTIONS 13, 14, AND 15 ON PRETEST, POSTTEST  
I AND POSTTEST II ADDRESSING OBJECTIVE 5

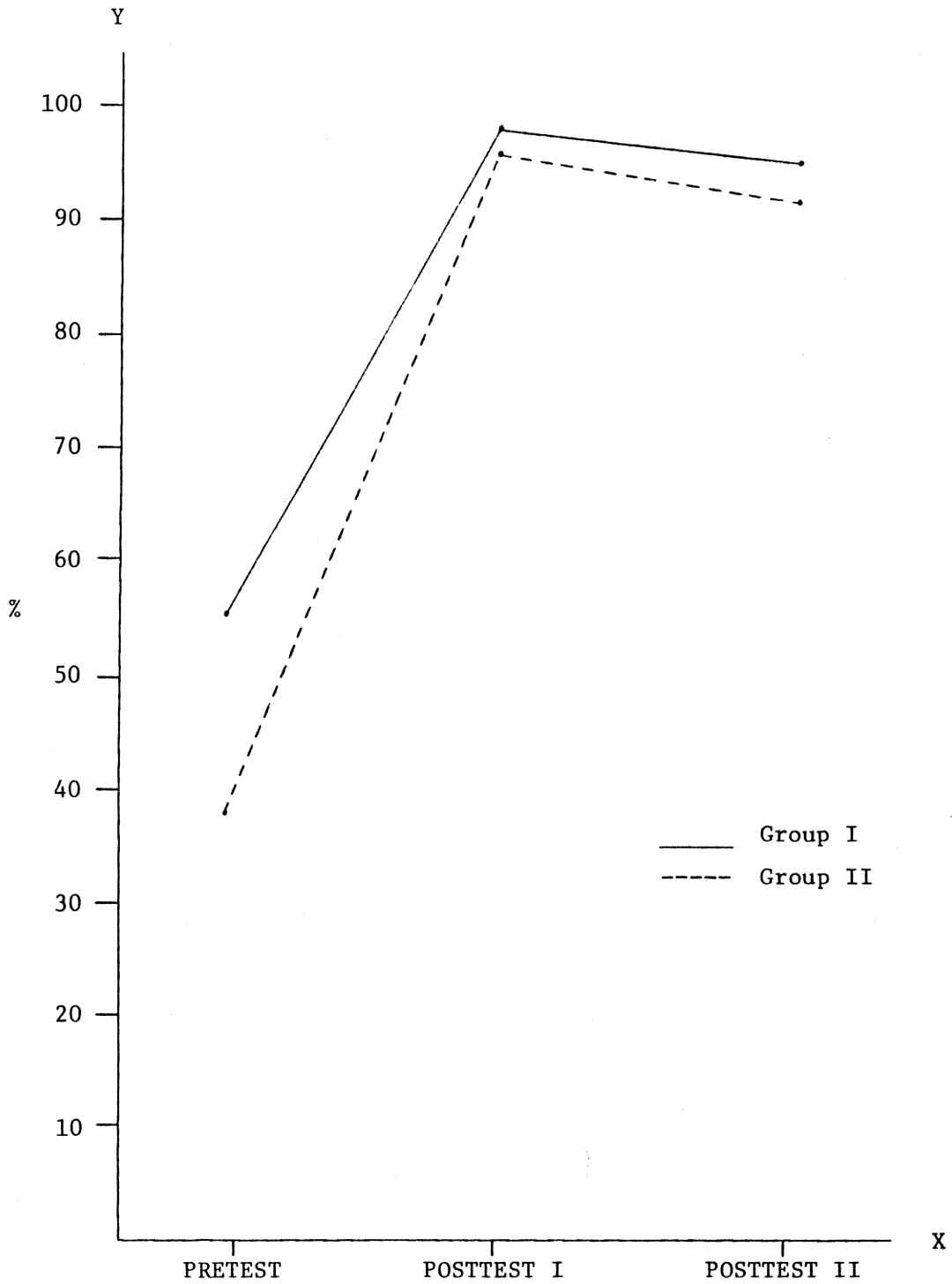


FIGURE 12

PERCENT OF TOTAL POSSIBLE SCORE BY GROUP ON PRETEST,  
POSTTEST I, AND POSTTEST II ADDRESSING OBJECTIVE 6

TABLE 5

Analysis of Variance Subjects by Treatments  
 Pretest--Posttest I--Posttest II: Group I

Source	SS	df	ms	F	p
Total	26,732	164			
Subjects	2,722	54			
Treatments	20,682	2	10,340.76	335.63	.001
Error	3,278	108	30.81		

TABLE 6

Duncan's Multiple Range Test for Variables Significant  
In Analysis of Variance Group I

	Mean	Grouping	Pretest	Posttest I	Posttest II
			21.60	47.11	43.07
MEAN DIFFERENCES					
Pretest	21.60	A		25.51	21.47
Posttest I	47.11	B			-4.04
Posttest II	43.07	C			

Means with the same letter are not significantly different at the  $p < .01$ .

possible. A higher score indicated the more practical the information. Individual needs satisfaction scores on the six items ranged from 12 to 20 with a mean of 17.50 from a maximum possible score of 24 points. A higher score indicated more perceived individual need satisfaction.

The Pearson Product-Moment Correlation was used to determine the relationship between information acquired (posttest I scores minus pretest scores) and needs satisfaction scores ( $r = .051$ ) and between information acquired and practicability scores ( $r = -0.177$ ). Using a z-test to determine the significance of  $r$ , results indicated that no significant statistical relationship could be demonstrated between these variables at the .05 level of significance. Likewise, the z-test was employed to determine the statistical significance of  $r$  among the variables of retention (posttest II scores minus posttest I scores) and practicability scores ( $r = .070$ ) and retention and needs satisfaction scores ( $r = .082$ ). Results indicated no significant statistical relationship at the .05 level could be drawn among the variables of retention and practicability scores and retention and needs satisfaction scores for Group I.

Interviews were conducted by the researcher on an individual basis with participants scoring in the bottom and top ten percent in posttest II. Teachers interviewed in the top ten percent of Group I represented five subject areas including business, music, math, English and social studies. All teachers were tenured in the Commonwealth of Virginia with only one teacher having a Master of Education degree. Two of the teachers had previous special education courses, and all but one worked with handicapped students including those who were mentally retarded, emotionally disturbed and learning disabled. In

a series of open ended questions, teachers stated that they had used the information on behavior management the most often and that characteristics and procedures were the least useful. All teachers, except those not currently working with handicapped students, indicated that they used the information presented in the course with handicapped students. Teachers interviewed used the techniques of behavior management, modification of instruction and motivation for non-handicapped students having trouble in their classes. Information was shared about the class with colleagues, and all teachers felt that they were better prepared to discuss handicapped students with special education personnel. They expressed less dependency on their special education colleagues and an increased awareness of the needs of handicapped students. Teachers expressed the ability to implement intervention strategies, to recognize antecedents and consequences of behavior and to modify materials, testing procedures and teaching techniques. Each teacher indicated having used these skills in modifying tests, general teaching strategies, presentation of information and assignments. The most beneficial aspects of the course according to those interviewed were behavior management techniques, the overall positive approach to instruction, and an awareness of the needs of handicapped students. While characteristics, procedures, and the problems of the course not being required were listed as least beneficial aspects of the course. Every teacher interviewed stated that the course had affected their teaching. They felt that as a result of the training they were more at ease with handicapped students, better organized, had a new lease on teaching.

Teachers who scored in the bottom ten percent on posttest II represented four subject areas including physical education, science,

guidance and music. Of those interviewed, 66.7% had tenure, a Master of Education degree and one previous special education course. Teachers indicated that they had worked with learning disabled and mentally retarded students. The teachers scoring in the bottom ten percent stated that they used the information on behavior management, the use of learning styles in modifying, presenting and evaluating instruction and found the information on the law used the least. The information presented in the class had been used by these teachers both with handicapped students and non-handicapped students having trouble in their classes. They used behavior management and instructional techniques with the nonhandicapped students. As with those in the top ten percent, the teachers had shared information about the course with their colleagues. All the teachers felt better prepared to discuss handicapped students with their special education personnel having more confidence and a better understanding of handicapped children. All teachers felt that they could identify antecedent and consequences of behavior and all but one teacher felt that they could implement an intervention strategy. Teachers, with the exception of one interviewed, had modified evaluation, presentations and general instruction. These teachers found behavior management techniques, insight and understanding of the handicapped and having new techniques as the most beneficial aspects of the course. The teachers in this group felt characteristics and not enough detail as the least beneficial aspects of the course. All teachers stated the course had affected their teaching by encouraging them to modify materials, to view students' individual needs and to have a better understanding of the handicapped. In comparing the interview responses of the participants scoring in the top ten percent and the

bottom ten percent on posttest II, there appeared to be little difference in their perceptions of the course or use of the methods and instruction presented.

#### Responses From Group II Participants

The sixteen participants in Group II represented 88.9% of class membership in the Spring of 1981. Of these 16 participants, six (37.5%) had a Masters Degree in Education. Fifteen (93.7%) had worked with handicapped students in their teaching careers. Six (37.5%) had previously had courses in special education. Fourteen of the teachers (87.5%) had been teaching over three years and were on continuing contract in the Commonwealth of Virginia. Seven subject areas were represented in the sample with the largest number of participants (42.5%) in physical education. For the participants in Group II, pretest scores ranged from 7 to 27 with a mean of 17.19. The results of posttest I, which immediately followed the training, had a mean of 46.43 with scores ranging from 43 to 48. Posttest II, which was administered six months following the training, had scores ranging from 39 to 50 with a mean of 45.56. The comparison of mean scores for the pretest, posttest I and posttest II for Group II is set forth in Figure 6 on page 65.

In an analysis of the percent of the total possible score for each set of objective questions for Group II. Figure 7 illustrating Objective 1 demonstrates that participants scores on information about Public Law 94-142 were higher on posttest II than on posttest I, while an increase in knowledge about the law was evident from pretest to posttest II scores. Objective 2 involving special education procedures



illustrated for Group II, like those in Group I, had an understanding prior to instruction (66.7%). Results indicated an increase in this information (100%) and retention of the material following training (see Figure 8). Characteristics of handicapped students addressed in Objective 3, illustrated teachers had a better than average background of information (79.7%). Following the inservice training, information on characteristics was increased and retained by participants (see Figure 9). A knowledge of behavior management techniques required in Objective 4 pictured in Figure 10 recognized that Group II participants had little understanding of the area (11.7%) prior to instruction. Following the completion of the course, the participants' information had increased (93.0%) and was retained by the teachers (92.5%). In analyzing Group II participants' skills in identifying environmental and student variables that affect learning outlined in Objective 5, teachers had a 22.5% background knowledge of the area as measured on the pretest. At the completion of the course participants had increased their understanding of this area (98.5%) and retained (90.1%) of the material (see Figure 11). Objective 6 depicted in Figure 12 identifies Group II teachers' skills in modifying and adapting classroom materials and teaching methods for handicapped demonstrates that teachers increased their knowledge (96.1%) and retained (90.6%) the information after return to their classrooms.

An analysis of variance using the treatments-by-subjects design indicated a significant difference at the .01 level among the scores for the pretest, posttest I, and posttest II (see Table 7). In applying Duncan's Multiple-Range Test to compare the scores, it was found that there was a significant difference at the .01 level between the pretest

TABLE 7

Analysis of Variance Subjects by Treatments  
 Pretest--Posttest I--Posttest II: Group 2

Source	SS	df	MS	F	p
Total	9,471.48	47			
Subjects	168.15	15			
Treatments	8,861.17	2	4,430.58	300.58	.001
Errors	442.16	30	14.74		

and posttest I. There was also a significant increase at the .01 level from the pretest to the posttest II administered six months after training. No significant decrease was demonstrated between the pretest and posttest II (see Table 8).

Scores on the Inservice Questionnaire used to solicit the participants' perception of practicability and individual need satisfaction. Practicability scores ranged from 28 to 37 in scores on the ten items with a mean of 31.63. Individual needs satisfaction had a mean of 18.56 and the scores for Group II participants ranged from 14 to 20 with a maximum of 24 points possible. The higher the practicability and need satisfaction scores the more practical and satisfying the perception of the course material.

The Pearson Product-Moment Correlation was used to determine the relationship between knowledge and needs satisfaction ( $r = .061$ ) and/or knowledge and practicability ( $r = .031$ ). The t-test was employed to test the significance of  $r$ . The results indicated no significant statistical relationship was apparent at the .05 level for the variables of knowledge and/or practicability and needs satisfaction. Likewise, using the t-test to determine the significance of Pearson Product-Moment Correlation ( $r$ ) no significant statistical relationship was demonstrated at either the .05 level between retention and practicability ( $r = .43$ ) or needs satisfaction ( $r = .27$ ) and retention.

Teachers interviewed in the top ten percent of Group II on posttest II represented four subject areas including physical education, English, business and music. These teachers were tenured and three had Master of Education degrees. Although they all had worked with handicapped students, none had had previous courses in special education. Modification

TABLE 8

Duncan's Multiple Range Test for Variables Significant  
In Analysis of Variance Group 2

	Means	Grouping	Pretest	Posttest I	Posttest II
			17.19	46.44	45.56
MEAN DIFFERENCES					
Pretest	17.19	A		29.25	28.37
Posttest I	46.44	B			- .88
Posttest II	45.56	B			

Means with the same letter are not significantly different at the  
 $p < .01$ .

of instructional techniques was the most useful information gained from the course and the law segment and paperwork requirements as the least beneficial. Teachers interviewed reported using contracting, behavior management, motivation techniques and assessment procedures with both handicapped and nonhandicapped students experiencing problems in their classes. They reported that they felt confident in applying intervention and modification techniques as well as identifying antecedents and consequences surrounding behavior problems. Each teacher felt better prepared to discuss handicapped children with special education personnel stating more awareness of terminology and vocabulary as giving them the background. All reported that the course had affected their teaching identifying the change in their attitude, recognized abilities and disabilities of others as critical to the affect in their classrooms.

#### Summary

Project assessments collected from class members during the instruction indicated participants perceived the material as practical and useful in their classroom settings. Teachers stated that they used the material in their instruction and that a difference was observed in student behavior, attitudes and work habits when exposed to techniques employed from the Project. Interaction with special education colleagues was cited as a positive result of employing the student and environmental planning sheets, while paperwork was cited as the negative in using these procedures. The results of the on-going assessments were shared with county administrative and supervisory personnel and with the State Department of Education in the Commonwealth of Virginia. The impact of these assessments were seen in:

continuation of state grant funds for the Secondary Project; administrative support and commitment for the organization of additional Inservice courses; the recognition of the behavior management workshop's affect on teachers and students and the allocation of funding for substitutes and consultants to continue this aspect of the Project; revision of the student/environmental variable sheets to reduce paperwork, but continue the process established in the Inservice Project; the organization and implementation of inservice programs for special education personnel to provide consistency in training between regular and special education teachers; the development and use of a Goal Setting Worksheet for use by classroom teachers in identifying and organizing programs for handicapped students in their classes, and the development and organization of elementary inservice programs focusing on the instructional aspects introduced in this Project.

Follow-up data identified the effectiveness of the Inservice Project in meeting instructional objectives through the participants' acquisition and retention of information. Behavior management, identification of variables affecting learning and modification of instruction showed the highest gain in acquisition of information. Participants initially demonstrated little understanding of these areas necessary in providing instruction for handicapped students within the regular classroom. The areas cited by the participants as least beneficial including the law and characteristics, while showing an increase in knowledge and retention of such information, were areas in which participants had an initial understanding prior to Project instruction. Participants interviewed stated the Project course had

affected their teaching, and, as had class members in the Project assessments conducted during instruction, cited a better relationship and open communication with special education personnel after the Inservice training.

## Chapter 5

### SUMMARY, CONCLUSIONS, DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

This chapter provides a summary of the findings and the conclusions of this investigation. Also implications for future activity and study are presented.

#### Summary

This Project and subsequent follow-up study was conducted in the context of changing social policy concerning the education of the handicapped and in a time when public schools were facing the dilemma of diminishing financial resources. With the enactment of Public Law 94-142 and supporting litigation regarding zero rejection and education for handicapped children in the least restrictive educational environment, the literature revealed that the educational community found itself with a discrepancy in teacher preparation and teacher expectations in working with the handicapped (Brooks & Bransford, 1971; Joyce, McNair, Diaz, McKibbon, Waterman, & Baker, 1977; Gearheart & Weisham, 1979; Chaffin, 1974; Middleton, Morsink & Cohen, 1979; Marsh, Gearheart & Gearheart, 1978; and Word, Gajar & Gessey, 1980). Teachers employed in the public schools were not trained to meet these changing demands, and reeducation or inservice was stated to be a critical component in the success of their meeting



the educational needs of the handicapped (Gearheart & Weisham, 1976; Chaffin, 1974; Heath, 1974; Public Law 94-142, 1978; Brooks & Bransford, 1971; Mitchell, 1976; Joyce et al., 1977; Lambie, 1977; Baker, 1979; and Altman, 1979). In a time when accountability has become a growing issue in education and financial resources limited, it is necessary first, to prepare inservice education based on theoretical concepts, and second, for inservice training programs to be evaluated as to their effectiveness once the teacher returns to the classroom. Yet, in an investigation of the literature pertaining to the evaluation of inservice programs little emphasis had been placed on the evaluation component. Studies into the effectiveness of training programs once the teacher had returned to the classroom were found to be almost nonexistent. This follow-up study was designed to assess the effectiveness of the Secondary Instructional/Special Education Project at the completion of the program and again after the teachers had returned to their classrooms. Two groups participated in the follow-up study. Because of course completion time, retention of information was measured at a six-month interval for Group II and a ten-month interval for Group I. In addition, the relationship between practicability and needs satisfaction to the acquisition and retention of information was explored. Inservice practices and theoretical concepts incorporated in the design of the Project also were reviewed. The follow-up study was conducted to investigate the following four questions about the Inservice Project:

1. Did participants gain information about special education as a result of the training?

2. Was the gain in information demonstrated on posttest I maintained over time after the participants had returned to their classrooms?

3. What was the relationship between acquisition and retention of information and satisfaction of individual needs as perceived by the participants?

4. What was the relationship between acquisition and retention of information and the practicability of the training as perceived by the participants?

With regard to the investigation of the four questions addressed in this follow-up study, the following major findings were indicated by the data:

Question #1 Did participants gain information about special education as a result of the training?

Participants in both Group I and Group II demonstrated a significant increase in their information about special education as measured by the difference between the scores on the pretest and on posttest I immediately following the completion of the Project.

Question #2 Was the gain in information demonstrated on posttest I maintained over time after the participants had returned to their classrooms?

Information about special education was maintained over time after participants returned to their classrooms. For participants six months following the completion of the Inservice Project, there was no significant decrease in the information as measured by the differences in scores on posttest I and posttest II at the .01 level using the Duncan's Multiple Range Test. The mean posttest I score was 46.43

and the mean posttest II score was 45.56. In a review of the Project objectives, the most significant increase in acquisition was demonstrated on material associated with behavior management, identification of variables affecting learning, adaptations and modifications of materials and instruction for use with handicapped students. Retention of this information was consistently high. There was an increase of information regarding the law, from acquisition to retention with a maintenance of retention evident in procedures and characteristics.

For participants ten months following training, the results using the Duncan's Multiple Range test illustrated a significant decrease in information acquired. Although some information was forgotten (16%), most of the information (84%) was remembered by the participants as represented by the significant difference between the mean pretest score of 21.6 and the mean posttest II score of 43.07. A review of the Project's objectives for Group I showed the most gain in information acquired on behavior management, variables affecting learning, and adaptations and modifications of materials and instruction for use with the handicapped. While some information was forgotten, over 80% of the material acquired regarding these objectives was retained. Information on the law, characteristics, and procedures showed a gain in acquisition and a maintenance of retention in these areas.

Question #3 What was the relationship between acquisition and retention of information and satisfaction of individual needs as perceived by participants?

For the purposes of the follow-up study needs satisfaction was defined as the sum of the scores on questions 2, 4, 6, 7, 8 and 11

on the Inservice Questionnaire. Using this operational definition of needs satisfaction, no significant statistical relationship was demonstrated through an analysis of the data using the Pearson Product-Moment Correlation between acquisition and needs satisfaction or retention and needs satisfaction. In interviews conducted following the completion of the training, all of the teachers interviewed indicated that the training had affected their teaching and had made a difference in their understanding and work with handicapped students. The teachers frequently stated that they were better prepared to discuss handicapped students with special education teachers. They stated that their understanding of terms and awareness of handicapped children had removed the mystery of special education and had helped establish a less dependent relationship on the expertise of the special education personnel. The teachers interviewed had shared the information with their colleagues.

Question #4 What was the relationship between acquisition and retention of information and the practicability of the training as perceived by the participants?

For the purposes of the follow-up study practicability was defined as the sum of scores on questions 1, 3, 5, 9, and 10 on the Inservice Questionnaire. Using this operational definition, no significant statistical relationship was demonstrated through an analysis of the data using the Pearson Product-Moment Correlation between acquisition and practicability of training or retention and practicability. However, in interviews conducted by the researcher the teachers stated that they had used the material presented in the course in working with both handicapped and nonhandicapped students experiencing problems

in their classrooms. The techniques used most by teachers interviewed involved principles of behavior management and the use of student learning styles in modifying, presenting, and evaluating instruction. The results of the interviews conducted following the completion of the course were congruous with assessments collected during the Inservice Course which consistently identified the material as practical and relevant to the needs of the students. Teachers during the Project at three intervals in the instruction repeatedly expressed the information presented as practical, concrete and useable within the classroom. The most beneficial aspect of the class identified by interviewees after the course and class members during instruction was behavior management. Techniques for modification of instruction and the positive approach to instructional adaptations also were cited.

### Conclusions and Discussion

If research in inservice education is to have an impact on the future of inservice training, then organizational and theoretical concepts used in the design of the Project must be presented in conjunction with the statistical data collected during the study.

The Secondary Instructional/Special Education Project was designed in response to the need created by a shift in social policy regarding the education of the handicapped. Because of the context in which the Project was conceived, the recognition of the difficulties and resistance to change were acknowledged in the initial planning stages. Through a review of the literature, observations, experience and discussion, a set of assumptions regarding the participants was developed. It was from these assumptions described in Chapter 3, that

a set of guidelines was established. The guidelines, also outlined in Chapter 3, were based on theoretical practices associated with effective inservice training and theories of adult learning. These guidelines were used as a foundation of the Inservice Project.

The effectiveness of the Inservice Project demonstrated by meeting the Project's objectives through the participants' acquisition of information about special education was consistent with findings identified by Lawrence (1974). In his review of the research on ninety-seven inservice education programs, he determined that projects incorporating four or more of the seven identified theoretical propositions had a strong record of meeting their objectives and showing a significant positive change. The Inservice Project in its design incorporated six of the seven propositions including cooperative planning, differentiated activities selected by the teachers, active instruction incorporating problem solving, demonstrations, feedback and group interaction and discussion, as well as participation in an inservice program that was part of an overall staff development plan supported by administrative and supervisory staff, and the availability to apply new learning in the classrooms. The course was constructed as suggested by Lawrence (1974) with a balance between knowledge and practice.

A further review of theoretical inservice models can be found in the design of the Project which included fourteen of the fifteen best practices identified by Hutson (1979) for inservice education. The practices incorporated from Hutson (1979) were outlined in the Project guidelines and were demonstrated in the instruction. Special attention was given to the implementation and good teaching model throughout the delivery.

In conjunction with theoretical practices associated with effective inservice training education, consideration was given to adult learning theory and recommendations by authors in the field. Interview data and Project assessments collected throughout the instruction supported the theoretical assumptions that: adult learners responded to relevant curricula and materials that have practical implications and were relevant to their environment (Kuhlen, 1970). The premise that adults required material to be meaningful (Shuell & Lee, 1976; Randal, 1978 and Cross, 1981) was supported in the teacher interviews, on-going Project assessments collected at three intervals during instruction and in the acquisition of material perceived as useful to the participants. The review of Project objectives demonstrated the most gains in information pertaining to behavior management, variables affecting learning and adaptations and modifications of instruction and materials. No significant statistical relationship was demonstrated as defined by the operational definitions of practicability and needs satisfaction to acquisition or retention. Because of the contradictory results obtained on the Inservice Questionnaire, consideration should be given to the possible limitations of instrument. The operational definitions of practicability and needs satisfaction to acquisition and retention used in the analysis should be reviewed, in light of interview data and course assessments illustrating teachers' perceptions throughout instruction.

Researchers in evaluating inservice programs have long advocated that the programs must be assessed when the teacher returns to the classroom and directed at changing teacher behaviors (Moellenberg, 1978; Altman, 1979 and Hutson, 1974). This Inservice Project

demonstrated that not only did the teachers acquire information through the inservice training, but that they retained the information after returning to their classrooms. Therefore, the Project objectives which were met initially, resulting in a conclusion of the effectiveness of the Project, had further impact on its participants. A conclusion drawn from this Project is that if inservice education is to show results when teachers return to the classrooms, the models and theoretical considerations used in design should be foremost in the organization of the Project. While changing teacher behavior is difficult to assess and acquisition and retention of information may not be demonstrated or incorporated into the teacher's daily instruction, all teachers interviewed in this Project stated that the inservice had affected their teaching. Teacher perceptions of the use and practicality of the information, along with their retention of the material presented, indicated positive results of the Project in changing teacher behaviors.

Strategies in behavior management and instructional adaptations and modifications were acknowledged as being used by the teachers in their instruction. The strategies evaluated as practical by the teachers were seen as having a positive effect on the students. Teachers reacted that the techniques were effective in modifying student behavior, attitude and work habits.

Demands to provide special accommodations often viewed as insurmountable to secondary teachers (Middleton, Morsink & Cohen, 1979 and Alley & Deshler, 1979) were, according to these teachers, being implemented in their classrooms. Fear of the handicapped, lack of information, and feelings of inadequacy in working with special



education teachers, were not evident in the teachers completing the Inservice Project. These teachers stated that they had more confidence and better understanding of handicapped children and felt better prepared to discuss programs for the handicapped. Therefore, a conclusion drawn from the results of this Project is that identified communication barriers to the development of programs for the handicapped can be opened through inservice training where participants acquire and retain information.

#### Implications for Future Activity and Study

Evaluating the impact of inservice programs is difficult (Allen, 1978; and Harris, 1980). There is a void in the selection, by researchers, of evaluation designs used to assess the long term effects of the training once the teacher returns to the classroom (Hutson, 1979; Moellenberg, 1980; Altman, 1979). Therefore future investigations should be designed to support the findings of this study regarding retention of information once the teachers return to their classrooms. As there was some loss of information by the teachers ten months following their participation in the Project and no loss at six months, further studies should be designed to investigate retention at different intervals. If as a result of those investigations, a retention pattern emerges then future researchers may want to conduct studies on the benefits of refresher or review courses.

Future studies also should concentrate on evaluation plans designed to focus on the changes exhibited by the teachers as they work with handicapped students. The use of pre post posttest results on the acquisition and retention of information should be only one part of

the evaluation plan used to measure change. The use of techniques, methods and modification of materials should also be assessed as part of the on-going evaluation for inservice training effectiveness.

Finally, because the definitions of practicability and needs satisfaction employed in this study may not have accurately represented what is traditionally considered when using these concepts, a more complete and perhaps valid operational definition of these concepts should be sought.

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APPENDIX A  
SURVEY OF INSERVICE NEEDS  
QUESTIONNAIRE

## INSERVICE NEEDS QUESTIONNAIRE

Chesterfield County Public Schools  
Chesterfield, Virginia

- I. Rank the following items on a scale of 1 to 8 in accordance with your assessment of knowledge or skills needed to teach handicapped students in a regular classroom setting.

Scale

1 = Most important knowledge or skill needed

8 = Least important knowledge or skill needed

Indicate your responses in the blanks on the left.

- \*(10) \_\_\_\_\_ Public Law 94-142 and its implications for regular classroom teachers
- (11) \_\_\_\_\_ Special education referral procedures in Chesterfield County
- (12) \_\_\_\_\_ Characteristics of educationally handicapped students
- (13) \_\_\_\_\_ Methods of assessing the learning strengths and weaknesses of handicapped students
- (14) \_\_\_\_\_ Planning and implementing alternate teaching methods, learning activities and modifications in instructional materials to meet the educational needs of handicapped students
- (15) \_\_\_\_\_ Behavior management techniques (classroom management and control)
- (16) \_\_\_\_\_ Procedures for grading/evaluating progress of handicapped students within the regular classroom setting
- (17) \_\_\_\_\_ Effective utilization of the services of special education teachers, guidance counselors and other support personnel in implementing appropriate educational programs for handicapped students in the least restrictive environment

- II. Based on your previous college or inservice courses, workshops and other training, indicate below the areas in which you need additional knowledge or skill:

Please circle yes or no (for each area)

- (18) Yes No Public Law 94-142 and its implications for regular classroom teachers

\* Please disregard numbers in parentheses as they are for computer use only

## Inservice Needs Questionnaire - continued

Page 2

- (19) Yes No Special education referral procedures in Chesterfield County
- (20) Yes No Characteristics of educationally handicapped students
- (21) Yes No Methods of assessing the learning strengths and weaknesses of handicapped students
- (22) Yes No Planning and implementing alternate teaching methods, learning activities and modifications in instructional materials to meet the education needs of handicapped students
- (23) Yes No Behavior management techniques (classroom management and control)
- (24) Yes No Procedures for grading/evaluating progress of handicapped students within the regular classroom setting
- (25) Yes No Effective utilization of the services of special education teachers, guidance counselors and other support personnel in implementing appropriate educational programs for handicapped students in the least restrictive environment

III. In meeting your personal inservice needs concerning mainstreaming of handicapped students, which of the following would you prefer? Indicate your top three choices by 1, 2, and 3.

- (26) \_\_\_\_\_ A. 3 hour graduate credit course conducted by the county during the school year
- (27) \_\_\_\_\_ B. 3 hour graduate credit course conducted by the county during the summer
- (28) \_\_\_\_\_ C. 3 hour non-college credit course for recertification offered during the school year
- (29) \_\_\_\_\_ D. 3 hour non-college credit course for recertification offered during the summer
- (30) \_\_\_\_\_ E. Full-day workshops held during the summer
- (31) \_\_\_\_\_ F. Full-day workshops held on inservice days in October and February
- (32) \_\_\_\_\_ G. Two-hour workshops held during the school year
- (33) \_\_\_\_\_ H. Other (please specify) \_\_\_\_\_

Inservice Needs Questionnaire - continued  
Page 3

IV. The selection of teachers for participation in the inservice training on mainstreaming for 1980-81 should be done by: (Choose one)

- (34)\_\_\_\_\_ A. Principals/Assistant Principals  
 (35)\_\_\_\_\_ B. Department heads  
 (36)\_\_\_\_\_ C. Supervisors  
 (37)\_\_\_\_\_ D. Principals, and Department heads and Supervisors  
 (38)\_\_\_\_\_ E. Principals and Department heads  
 (39)\_\_\_\_\_ F. Principals and Supervisors  
 (40)\_\_\_\_\_ G. Department heads and Supervisors  
 (41)\_\_\_\_\_ H. Interested teachers sign up for course  
 (42)\_\_\_\_\_ I. Other (please specify)\_\_\_\_\_

V. Have you had any course(s) in Special Education? Please circle yes or no.

(43) Yes    No

If yes, specify the course title(s): \_\_\_\_\_

VI. Are you a department head? (Circle yes or no)

(44) Yes    No

VII. Please circle your teaching level:

(45) Middle school                      High school

VIII. Please circle your content area:

- |                                 |  |
|---------------------------------|--|
| (46)    A. Art                  | G. Distributive Education                                    |
| B. Drama                        | H. Home Economics  |
| C. Health/Physical<br>Education | I. Industrial Arts   |
| D. Music                        | J. IWE   |
| E. Science                      | K. ICT   |
| F. Business                     | L. Other - Technical Center (please<br>specify subject)_____ |

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(questions continued on next page)

Inservice Needs Questionnaire - continued  
Page 4

IX. Comments \_\_\_\_\_  
\_\_\_\_\_  
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THANK YOU FOR YOUR TIME AND EFFORT

Please return this questionnaire to your principal per his/her instructions.



APPENDIX B  
COURSE SYLLABUS

INSERVICE COURSE ON MAINSTREAMING  
SPECIAL EDUCATION DEPARTMENT  
CHESTERFIELD COUNTY SCHOOLS

COURSE TITLE: The Exceptional Adolescent in the Regular Classroom

COURSE DESCRIPTION:

The course is designed to prepare middle and high school teachers to work effectively with handicapped students enrolled in regular classes. The course format includes presentations by county special education personnel, a behavior management workshop and "on the job" application activities.

COURSE OBJECTIVES:

- To develop an understanding of P. L. 94-142 and its implications for classroom teachers
- To develop an understanding of Special Education procedures and programs in Chesterfield County
- To develop knowledge of the characteristics and identification of handicapped students
- To develop skill in utilizing various behavior management techniques in the classroom
- To develop an understanding of and skill in identifying environmental and student variables that affect learning
- To develop skill in modifying and adapting classroom materials and teaching methods for handicapped students

COURSE REQUIREMENTS:

- Completion of Pretest
- Attendance at all class sessions
- Reading of class handouts
- Participation in class discussion and activities
- Completion of all class projects
- Completion of Post-test with at least 70% accuracy

APPENDIX C  
SAMPLE OF COURSE ANNOUNCEMENTS

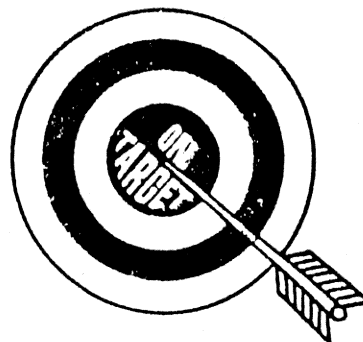
# THE EXCEPTIONAL ADOLESCENT IN THE REGULAR CLASSROOM

## INSERVICE COURSE ON MAINSTREAMING

3 Hours Non-College Credit

HAVE YOU HEARD?

CHESTERFIELD TEACHERS SAID THE  
SECONDARY SPECIAL EDUCATION INSERVICE WAS . . .



THEIR COMMENTS WERE:

"I felt the course was of great value to me as a classroom teacher."

"The course was very informative and enlightening. I gained a wealth of knowledge that can be used in working with the regular student."

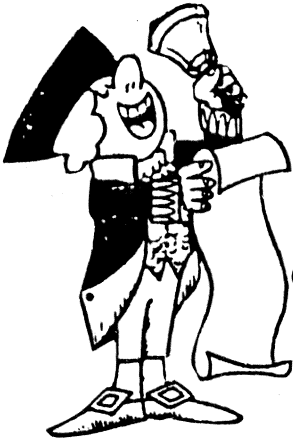
"Do it again! More teachers need this desperately!"

"Wish all teachers in Chesterfield could benefit from what we have learned in this course. I can't wait to try some of these techniques in the fall."

### COURSE DESCRIPTION

The course is designed to prepare middle and high school teachers to work effectively with handicapped students enrolled in regular classes. The course format includes presentations by county special education personnel, a full-day behavior management workshop (substitute teachers provided), and "on the job" application activities.

See the back of this sheet for details on how YOU can become involved!



*Announcing...*

ANNOUNCING ANOTHER OPPORTUNITY TO PARTICIPATE . . . .

THE EXCEPTIONAL ADOLESCENT IN THE REGULAR CLASSROOM

SCHEDULE OF CLASSES

Dates: February 19 - May 28, 1981  
Thursday afternoons

Time: 2:30 - 4:30 p.m.

Location: Chesterfield Technical Center (Dining Hall)

WHO CAN PARTICIPATE?

Any secondary school teacher may sign-up for the course.

If you are interested in participating, notify your principal by Tuesday, February 3. We may have to limit enrollment so do not delay. Sign up now! Remember, the course provides 3 hours of non-college credit for recertification. If you have any questions, call Nancy Denike, Special Education Program Specialist at 748-1595.

APPENDIX D  
COURSE ACTIVITIES

INSTRUCTIONS FOR COMPLETING EXPERIENTIAL ACTIVITY #1 (OBJECTIVE 5)Inservice Course - The Exceptional Adolescent in the Regular Classroom

1. Choose a student in one of your classes for this activity. If you do not have an identified handicapped student, choose a student who is having difficulty. Review that student's cumulative and confidential records and current Individualized Educational Program (IEP), and complete columns I, II, III of the Student Variables Planning Sheet.
2. Using the Classroom Observation Sheet (titled Identification of Classroom Environmental Variables), observe this student in a regular class of your own subject area for one class period. Prior to making your observation, share its purpose with the teacher emphasizing that it is not an evaluation of the class, but an observation of classroom variables which should be taken into consideration when determining necessary intervention strategies for handicapped students.
3. Reassess the Student Variables Planning Sheet to determine if identified areas are strengths or weaknesses. These student variables must be considered prior to writing educational goals for the student.
4. To complete column IV of The Student Information Sheet, refer to the SPECIAL TIPS SHEET for the appropriate handicapping condition and decide which techniques to try. Also refer to the Classroom Environment Sheet for ideas on interventions available to try. Test these in column IV.
5. The development of an appropriate IEP would normally follow as a result of the information gathered. Since this student already has an IEP, you are not required to complete this step.
6. Summarize below your thoughts concerning this activity and your learning in reference to:
  - a. environmental variables that affect learning
  - b. specific techniques that can be used with handicapped students
  - c. the value of filling out a summary form such as this one entitled Student Information Sheet

This assignment will take approximately three hours to complete. The principals and LD and ED teachers in your schools will receive copies of this assignment so they will be aware of what you will be doing. If you have any questions or problems as you complete this activity, please call.



▲ = Information from files,  
records

● = Information from obser-  
vation, teacher comments

SPECIAL EDUCATION

STUDENT INFORMATION SHEET

Student's Name \_\_\_\_\_ Grade \_\_\_\_\_ Age \_\_\_\_\_ D.O.B. \_\_\_\_\_

School \_\_\_\_\_ Teacher \_\_\_\_\_ School Year \_\_\_\_\_ Date \_\_\_\_\_

	Present Level of Performance		III. Interventions Attempted/Results	IV. Recommended Interventions
	I. Strengths/Assets	II. Weaknesses/Problems		
Sensory (how the student pro- cesses information, i.e., visual, auditory, motor)				
Physical (health, medication, etc.)				
Emotions (types of emotions, control of emotions)				
Cognitive (intellectual ability, thinking skills)				

	Present Level of Performance		III. Interventions Attempted/Results	IV. Recommended Interventions
	I. Strengths/Assets	II. Weaknesses/Problems		
Inter-Personal (interactions with family, peers, teachers)				
Actions (behaviors)				
Levels of Achievement (academic skills, sports, hobbies, etc.)				
Home Environment (living conditions, child management, techniques, etc.)				

Comments

DESCRIPTION AND GOALS OF THE CLASSROOM ENVIRONMENT

Classroom of \_\_\_\_\_ Subject \_\_\_\_\_ Student \_\_\_\_\_ Date \_\_\_\_\_  
 I. Directions: Circle those variables which are most descriptive of this classroom. While any or all of these variables may be present in a classroom at one time or another, circle those variables describing the characteristics which are most frequently true of this class. More than one variable in each category may be circled, if applicable. Each variable is descriptive only in nature and does not carry any value judgement as to one variable or method being superior to another.

<u>Physical Arrangement</u>	<u>Organization</u>	<u>Management</u>	<u>Social Structure</u>	<u>Methods of Presentation</u>	<u>Methods of Practice</u>	<u>Methods of Evaluation</u>
<u>Facilities</u>	<u>Grouping Arrangements</u>	<u>Arrangement of Antecedent Events</u>	<u>Communication</u>	<u>Type</u>	<u>Materials</u>	<u>Type</u>
. adequate lighting	. large group	. expected outcomes of each activity specified to students	. teacher directed	. lecture	. texts	. verbal
. adequate sound-proofing between other classrooms and within the classroom	. small group	. transitions in activities signalled well in advance	. student directed	. discussion	. worksheets	. written
. absence of architectural barriers	. individual	. signals utilized to secure group attention	. interactive	. demonstration	. manipulatives	. demonstration
. other _____	. other _____	. other _____	. other _____	. reading	. games	. open-book
<u>Setting</u>	<u>Planning</u>	<u>Affective Climate</u>	<u>Recognition and exploration of feelings</u>	. audio-visual	. audio-visuals	. multiple choice
. desks are arranged in rows and columns	. one lesson plan	. promotion of positive self-concept by planning successful learning experiences	. recognition and exploration of feelings	. other _____	. other _____	. matching
. desks and tables are arranged according to learning centers	. group lesson plans	<u>Curriculum Flexibility</u>	. other _____	<u>Mode of Response</u>	. copying	. true-false
. partitions or study carrels are used to designate space for independent work; other areas are designated for group work	. contracts	<u>Structure</u>	. abstract conceptual level	. recognizing	. recognizing	. short answer
. other _____	. other _____	<u>Rules</u>	. concrete conceptual level	. recalling	. recalling	. essay
	<u>Methods of Instruction</u>	. clearly stated	. other _____	. verbalizing	. verbalizing	. take home
	. inquiry/discovery	. developed cooperatively with students	<u>Personal Interaction</u>	. writing	. writing	. other _____
	. diagnostic-prescriptive	. consequences for not following rules clearly stated and observed	. recognition and acceptance of differences	. other _____	. other _____	<u>Structure</u>
	. applied behavior analysis	. other _____	. reinforcement of cooperative work efforts, noncompetitive climate	. supplementary instruction provided	<u>Assignments</u>	. group administered
	. peer tutoring	<u>Reinforcement System</u>	. teacher-student rapport evident	. multilevel instruction	. fixed group	. individually administered
	. self instructional	. grades	. other _____	. other _____	. individualized	. fixed time for completion
	. direct	. contracts	. other _____	<u>Structure</u>	. fixed due dates	. individualized time for completion
	. other _____	. praise	. other _____	. cues, mnemonic devices used	. individualized due dates	. other _____
		. notes sent home		. corrective feedback immediately provided	. other _____	<u>Grading</u>
		. free time		. frequent repetition of previously taught skills		. compares relative standing of student in the class
		. special activity		. other _____		. assesses degree of mastery of specific material
		. tangibles				. other _____
		. progress charts				
		. other _____				

Inservice Course: The Exceptional Adolescent in the Regular Classroom  
Special Education Department  
Chesterfield County Schools

Activity 2 (OBJECTIVE 4)

As a follow-up to our behavior management workshop, you are asked to observe a student (student does not have to be identified as handicapped) for one class period. Record your observations (antecedent events, behaviors and consequences/reinforcers) on the attached form and then briefly outline a behavior change program that you feel could be implemented in a regular classroom setting.

Activity 2 A (Extended)

This extended behavior change project involves the actual implementation of a behavior management program with either an individual student or a group over a minimum of four weeks (1 week of collecting baseline data and 3 weeks of intervention). This project and the written report of the effort should follow this outline:

- I. Define the behavior problem and determine the antecedents and consequences.
- II. Collect baseline data for a week and record data each day.
- III. Describe the intervention strategy selected and the rationale for choosing it.
- IV. Keep data on the effects of the strategy and discuss the results.
- V. Evaluate the intervention strategy. Why did it work or not work?

The report should be a minimum of two pages and a maximum of four pages (typed or written legibly).

Behavior Observation Sheet

Antecedent Events

Behaviors

Consequences/Reinforcers

---

Suggested Behavior Management Program:

Inservice Course: The Exceptional Adolescent in the Regular Classroom  
Special Education Department  
Chesterfield County Schools

Activity 3 (OBJECTIVE 6)

As follow-up to the presentations on modifications and adaptations, you are asked to try one modification technique in your classroom. This modification should be in the area of materials, methods of teaching or testing procedures. You can do this with an individual student, a small group, or the entire class. On the attached form, please summarize the technique you tried and what happened as a result of trying this modification.

Activity 3 A (Extended)

Plan and implement a one week "mini-unit" which includes suggested modifications in materials, teaching methods and/or testing procedures appropriate for students with learning problems.

The project and the written report of the effort should follow this outline:

- I. UNIT TOPIC and OBJECTIVES
- II. LEARNING ACTIVITIES
- III. STATEMENT OF STUDENT PROBLEM - indicate the problem or difficulty experienced by the student(s)
- IV. MODIFICATIONS - for materials, teaching methods and/or testing procedures
- V. EVALUATION - evaluate whether or not the modifications were successful and explain why or why not.



APPENDIX E  
PROJECT TEST



Inservice Course: The Exceptional Adolescent in the Regular Classroom  
 Special Education Department  
 Chesterfield County Schools

Name \_\_\_\_\_ Date \_\_\_\_\_ Score \_\_\_\_\_

Directions: Please answer these questions by circling the correct response or filling in the blanks.

1. As defined by P.L. 94-142, special education means specially designed instruction, at no cost to parents, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions. (OBJECTIVE 1)
  - a. Yes
  - b. No
  
2. The purpose of P.L. 94-142 is: (OBJECTIVE 1)
  - a. To insure that all handicapped children have available to them a free appropriate public education which includes special education and related services to meet their unique needs;
  - b. To insure that the rights of handicapped children and their parents are protected;
  - c. To assist states and localities to provide for the education of all handicapped children;
  - d. To assess and insure the effectiveness of efforts to educate handicapped children;
  - e. all of the above
  - f. a and b
  - g. b and d
  
3. The referral is the starting point for evaluating a child suspected of being handicapped. The referral must be reviewed by a screening committee within 10 days. (OBJECTIVE 2)
  - a. Yes
  - b. No
  
4. Referrals for special education and related services may be made by the classroom teacher, parents, school personnel such as the guidance counselor, visiting teacher, psychologist or principal, an outside agency and the student himself. (OBJECTIVE 2)
  - a. Yes
  - b. No

5. Upon completion of all evaluation components, determination of whether or not a student is handicapped and in need of special education services is made by the: (OBJECTIVE 2)
- a. screening committee
  - b. principal
  - c. evaluation committee
  - d. eligibility/placement committee
  - e. LD or ED teacher and psychologist
  - f. none of the above
6. An Individualized Education Program (IEP) must be developed for each handicapped student within 30 days of the determination of eligibility. The IEP must be developed prior to actual placement in a special education program. (OBJECTIVE 1)
- a. Yes
  - b. No
7. Procedural safeguards for handicapped children and their parents include: informing the parents orally and in writing prior to evaluation or change in placement and that these procedures cannot begin until parents have given verbal permission during a parent-teacher conference. (OBJECTIVE 1)
- a. Yes
  - b. No
8. According to P.L. 94-142, each public agency shall insure:
- That to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped, and
- That special classes, separate schooling or other removal of handicapped children from the regular educational environment occurs only when the nature of severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily. (OBJECTIVE 1)
- The above definition refers to:
- a. continuum of alternative services
  - b. least restrictive environment
  - c. special services program
  - d. most restrictive environment
  - e. special education services
  - f. none of the above

9. The term \_\_\_\_\_ refers to a "disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculation." (OBJECTIVE 3)
- a. emotional disturbance      d. learning dysfunction  
 b. mental retardation      e. neurological disorder  
 c. learning disability      f. none of the above
10. Learning disabled students perform poorly in all subject areas. (OBJECTIVE 3)
- a. Yes      b. No
11. According to P.L. 94-142, the term seriously emotionally disturbed means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: (OBJECTIVE 3)
- a. an inability to learn which cannot be explained by intellectual, sensory, or health factors  
 b. an inability to build or maintain satisfactory interpersonal relationships with peers and teachers  
 c. inappropriate types of behavior or feelings under normal circumstances  
 d. a general pervasive mood of unhappiness or depression  
 e. a tendency to develop physical symptoms or fears associated with personal or school problems  
 f. all of the above      g. a, b and c only
12. The term \_\_\_\_\_ means significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, which adversely affects a child's educational performance. (OBJECTIVE 3)
- a. deaf      d. mentally retarded  
 b. emotionally disturbed      e. blind  
 c. learning dysfunction      f. none of the above

13. List seven categories of student variables that affect learning.  
Clue: "Special" Model (OBJECTIVE 5)

1. \_\_\_\_\_ 5. \_\_\_\_\_  
 2. \_\_\_\_\_ 6. \_\_\_\_\_  
 3. \_\_\_\_\_ 7. \_\_\_\_\_  
 4. \_\_\_\_\_

14. List 5 classroom environmental variables that affect student learning: (OBJECTIVE 5)

1. \_\_\_\_\_ 4. \_\_\_\_\_  
 2. \_\_\_\_\_ 5. \_\_\_\_\_  
 3. \_\_\_\_\_

15. Briefly explain the following: (OBJECTIVE 5)

auditory learner -

visual learner -

kinesthetic learner -

16. List four strategies for managing surface behavior of students in your classroom (OBJECTIVE 4)

1. \_\_\_\_\_  
 2. \_\_\_\_\_  
 3. \_\_\_\_\_  
 4. \_\_\_\_\_

17. List the ABC's of behavior management: (OBJECTIVE 4)

A = \_\_\_\_\_ B = \_\_\_\_\_ C = \_\_\_\_\_

18. Briefly explain a modification/adaptation a teacher might try for students experiencing the following learning problems. (OBJECTIVE 6)

<u>Problem</u>	<u>Modification</u>
a. Difficulty following multi-step directions	a.
b. Difficulty with reading and student is expected to learn content from textbook.	b.
c. Slow, laborious handwriting and student is expected to copy extensive notes during lecture	c.
d. Student works entire class period but never finishes in-class assignments (work attempted is usually 80-85% accurate)	d.

APPENDIX F  
COURSE ASSESSMENTS

EVALUATION OF  
BEHAVIOR MANAGEMENT WORKSHOP

Date \_\_\_\_\_

Circle your teaching level: Middle School      High School

1. The content of the workshop was:

5	4	3	2	1
Excellent		"So-So"		Poor

2. The manner of presentation was:

5	4	3	2	1
Excellent		"So-So"		Poor

3. The most helpful part of the workshop was:

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---

---

4. The workshop could be improved by:

---

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5. Message for instructors:

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Assessment of Course Effectiveness by Participants  
Mid Semester

Circle your teaching level:      Middle School      High School

Name of your school: \_\_\_\_\_

1. As a result of the class sessions on PL 94-142 and the characteristics of Learning Disabilities and Emotional Disturbance, do you now have a better understanding of handicapped students?

Yes                      No

Explain why or why not \_\_\_\_\_

\_\_\_\_\_

2. Have you tried any of the behavior management techniques suggested in the workshop?

Yes                      No

If yes, what changes did you observe in the behavior, attitude, and/or work habits of the student(s)?

\_\_\_\_\_

\_\_\_\_\_

3. In completing activity #1, using the Classroom Observation Sheet and the Student Variables Planning Sheet, have you found this experience to be of value to you in working with your students?

Yes                      No

Explain why or why not \_\_\_\_\_

\_\_\_\_\_

4. As a result of the class sessions so far, has your attitude toward handicapped students in your classrooms changed in any way?

Yes                      No

Explain why or why not \_\_\_\_\_

\_\_\_\_\_

5. Would you recommend this inservice course to other classroom teachers in your school?

Yes                      No



COURSE EVALUATION

DATE \_\_\_\_\_

INSERVICE COURSE: THE EXCEPTIONAL ADOLESCENT IN THE REGULAR CLASSROOM

Circle One:      Middle School      High School      Technical Center

Please use the following rating scale:

5	4	3	2	1
Excellent				Poor

Circle

(1) Information/course content	5	4	3	2	1
(2) Organization of course	5	4	3	2	1
(3) Printed handout materials	5	4	3	2	1
(4) Methods of presenting course content	5	4	3	2	1
(5) Overall course rating	5	4	3	2	1

Comments and/or suggestions for improvement:

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APPENDIX G  
TEACHER COMMENTS ON  
PROJECT ASSESSMENTS

Excerpts from Teachers' Comments on Assessment  
Of Behavior Management Workshops  
(Fall, 1980--Spring, 1981)

Statements on the most helpful aspect of the workshop

- "Having the instructors realize what the situation in the classroom is really like and providing some practical suggestions for behavior management."
- "Use of techniques that were applicable to my situation."
- "I feel it gave me many many hints as to how the material can be put to practical use."
- "The concrete methods for management."
- "Improving my attitude! I felt frustrated this year in many respects concerning my job. The suggestions were, for the most part practical."
- "Knowing the antecedents--the fact that you may avoid some of the behavior that occurs."
- "Specific solutions to try in my classroom instead of just describing the problem."
- "Application of ideas to relevant situations as adults and then showing relationships to this development with students."
- "Brought to my mind lots of ways as a teacher we may be an "antecedent" or "consequence" of behavior."
- "The analysis of antecedents--behavior and consequences."
- "How to develop a positive reinforcement as well as a "hand-on" experience with sheets and discussion pairs."
- "Encouragement to be more positive toward students who do the right behavior."
- "I enjoyed the day and gained a couple of good ideas."
- "That it was down to earth, informative, a good basic resume of behavior management. Several ideas were given which seem to be worthwhile--why haven't I thought of them."
- "Informed relaxed atmosphere. You involved the audience. I very much dislike sitting in a room and not being able to actively participate in the discussions."
- "Suggestions for what to do."

- "Examples of practical behavior. I enjoyed talking with others about their problems--particularly rotating so we heard fresh ideas all day."

The teachers recommended the following for improving the workshop:

- "More situations involving reinforcing appropriate behavior."
- "by presenting it to supervisors and administrators."
- "having more things to serve as reinforcers."
- "softer chairs and a warmer room."
- "more participation with other teachers."
- "more specific problems, their causes and itemized procedures for resolution."
- "none!"
- "excellent as it was"
- "more discussion as to what to do with the children who do not respond to positive reinforcement."
- "nothing I can think of"
- "suggestions for support systems for teachers attempts at managing a student's behavior."
- "being taught in a more frequent sessions."
- "smaller groups with more interaction."
- "more time for practice."

Excerpts from the Teachers' Explanations on the  
Mid Semester Course Effectiveness Questionnaire

Question 1: Teachers responding that they had gained a better understanding of handicapped students as a result of class participation stated:

- "I have a better understanding of problems, also what to look for in terms of behavior, etc."
- "I now label as handicapped various new categories of students."
- "I understand some of their problems and frustrations."
- "Because of being placed in situations as handicapped I have a better understanding."
- "Especially LD students and problems in learning."
- "I can understand now that physically normal kids can have handicaps."
- "I understand more about why there are behavior problems."
- "I was not aware of what the law required."
- "Better understanding of various characteristics of handicapped students."
- "Because we were placed in a handicapped situations in some of the classes."
- "Especially the difficulties that an LD student faces in coping with daily tasks. In all areas the description of the many variables enabled me to see more about my Special Education students."
- "I feel that I understand why they are having difficulty. I might have learned how to be more patient, if that."

Teachers responding that they had not gained a better understanding of handicapped students, as a result of participation in the class stated:

- "I understand the laws, but not the student."
- "I have some knowledge of the terminology, but I do not feel that I am any better equipped to handle students."

- "I have a better understanding of the wording of the law itself and its application to the public school system. P.L. 94-142 did not give me a better understanding of the student, himself, or how I can cope with the handicapped student in a "normal" classroom."
- "I understand why we need P.L. 94-142 but I do not necessarily have a better understanding of handicapped students."

Question 2: When asked had they tried any of the behavior management techniques introduced and the changes observed in the behavior, attitude and/or work habits of the students, the teachers responded that:

- "improvement in behavior."
- "students worked for rewards--their behavior improved tremendously--talking during classwork stopped."
- "there were changes both in my attitude and my students' attitude--the general atmosphere was better."
- "in some of my students none--but some students are helped in bringing books to class--not talking--etc."
- "positive reinforcement produced positive results."
- "I have noticed increased interest in copying notes and turning in assignments when reinforcements such as checks in the gradebook were used."
- "better attendance; on time; ready to work at the very beginning of class."
- "improvement in attitude."
- "positive changes"
- "decrease in negative behavior."
- "better working habits"
- "yes, students responded favorably to the techniques."
- "Rewarding students showing positive behavior."
- "tried praising good behavior--very effective."
- "students were willing to complete work, some who hadn't completed work in past do it now."

Question 3: Teachers responding that they had used and found Activity 1 to be of value in working with students stated:

- "It made me sit down and realize the "before" and "after" pictures of different students."
- "Helps the teacher, to see how to deal with various types of LD problems."
- "It makes my goals more specific."
- "I've tried to vary my instruction more."
- "Has created a better relationship."
- "It keeps me exploring each student's needs and searching for answers to their likes and dislikes."
- "Somewhat, since it has made me more aware of certain variables which I would not have considered previously."
- "It helped me to sit back, examine closely, and re evaluate the occurrences in the classroom and to deal with them more properly."
- "More aware of reasons for certain behaviors and information to request from special education teachers."
- "new ideas to use in the classroom."
- "I understand the entire program of special education much better. It aids me in working with the sp. ed. teachers and the students who are mainstreamed."
- "Now I know what things to observe that I didn't before. There is a lot of planning that goes into helping a child who has been mainstreamed into your class."
- "Prior to this class, I didn't know the combination of variables which effected classroom conduct."
- "The process enabled me to better understand the whole child."

Teachers who responded negatively to the implementation of Activity 1 stated:

- "Not necessary at High School. Students are grade motivated and respond to appropriate tools."
- "too much time to complete for the value."
- "did not help me with the problem of dealing with a handicapped student who needs a great deal of individual attention, this takes too long, while there are 20 other children who also require a great deal of attention."

- "too much paperwork now."
- "no, not appropriate in my class."
- "too much time involved, for the special educations and myself to get together like this on each child."

Question 4: Teachers who stated their attitudes about handicapped students had changed, as a result of the class stated:

- "somewhat--Just to be aware that problems exist."
- "I try to see things the way the students do."
- "I have become more aware of problems and what to look for."
- "I realize that special education students need special consideration."
- "I can better understand how great are the difficulties with which they must cope in trying to learn."
- "I treat them more as typical students and I also individualize their work much more."
- "I have a better understanding of their needs."
- "I am more patient toward them."
- "more understanding in relationship to their problems."
- "I'm not dreading the idea of mainstreaming now--if my class doesn't become a dumping ground for all of them."
- "I feel that I have gained a better and broader perspective of this type of student and his needs."
- "They are really no different from other students in most respects."
- "Definately! I had a very negative attitude toward incorporating the exceptional child into the regular classroom. Now that I understand more clearly this type of child, I feel more positive."

Teachers who responded that their attitude had not changed as a result of participation in the class stated:

- "I already had a positive attitude."
- "I have a son with an LD problem and I have always been aware and on the lookout for children with these problems."



- "I think I had empathy for them to begin with and was already aware of their individual problems."
- "I'm still wondering how to deal with a group of 20 average students while I devote the bulk of my time to the handicapped."
- "Because I have always tried to meet individual needs of students."
- "I have always had a positive attitude toward the handicapped."
- "I have already experienced humanistic training for a number of years."
- "I have always worked with these kind of students and respect them as individuals and try hard to meet their individual needs."
- "This class has not altered my attitude about handicapped students since I deal with different students everyday of my teaching career."
- "I had real empathy for these students to begin with so the class really just reinforced what I suspected."

APPENDIX H  
INSERVICE QUESTIONNAIRE

INSERVICE QUESTIONNAIRE

As part of the follow-up study, please complete this questionnaire and return it with your posttest.

A. Circle the response to each question that accurately reflects your opinion about the Secondary Instructional/Special Education Inservice Course:

1. The following approaches that were presented work well.

a. Techniques in behavior management (Practicability)

Strongly Agree      Agree      Disagree      Strongly Disagree

b. Techniques in assessing individual student learning strengths and weaknesses in planning appropriate educational programs. (Practicability)

Strongly Agree      Agree      Disagree      Strongly Disagree

c. Techniques in assessing the classroom/environmental variables influencing education in the regular classroom (Practicability)

Strongly Disagree      Disagree      Agree      Strongly Agree

d. Techniques for modifying and adapting materials for handicapped students in the regular classroom (Practicability)

Strongly Agree      Agree      Disagree      Strongly Disagree

e. Use of the referral and special education process in identifying handicapped students (Practicability)

Strongly Disagree      Disagree      Agree      Strongly Agree

f. Techniques in managing surface behaviors of students in your classroom (Practicability)

Strongly Disagree      Disagree      Agree      Strongly Agree

COMMENTS:

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2. I benefitted from the course (Needs Satisfaction)

Strongly Agree      Agree      Disagree      Strongly Disagree

Please explain the benefits of the course to you: \_\_\_\_\_

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3. The course provided methods that work effectively for me with handicapped students (Practicability)  
Strongly Disagree      Disagree      Agree      Strongly Agree
4. I feel a lot better about working with handicapped students since completing the course (Needs Satisfaction)  
Strongly Agree      Agree      Disagree      Strongly Disagree
5. It has been difficult to transfer what was presented in the course to a classroom situation (Practicability)  
Strongly Disagree      Disagree      Agree      Strongly Agree
6. The course met my needs in working with handicapped students (Needs Satisfaction)  
Strongly Disagree      Disagree      Agree      Strongly Agree
7. The course addressed my concerns about teaching handicapped students (Needs Satisfaction)  
Strongly Disagree      Disagree      Agree      Strongly Agree
8. As a result of the course, I feel better prepared to discuss handicapped students with special education personnel (Needs Satisfaction)  
Strongly Agree      Agree      Disagree      Strongly Disagree
9. The course dealt with the "nuts and bolts" of teaching handicapped students (Practicability)  
Strongly Disagree      Disagree      Agree      Strongly Agree
10. The course provided techniques that assisted me in working with non-handicapped students in my classroom (Practicability)  
Strongly Disagree      Disagree      Agree      Strongly Agree
11. I found the information from the course valuable enough to share with my colleagues (Needs Satisfaction)  
Strongly Agree      Agree      Disagree      Strongly Disagree

B. Please complete the following questions.

1. What subjects are you teaching? \_\_\_\_\_  
\_\_\_\_\_
2. How many years have you been teaching? \_\_\_\_\_
3. What is your highest college degree? \_\_\_\_\_
4. Have you taken any other special education courses? Yes \_\_\_ No \_\_\_
  - a. If yes, how many credit hours? \_\_\_\_\_
  - b. Were they part of your preservice courses (prior to the completion of the B.A./B.S. degree?) Yes \_\_\_ No \_\_\_
  - c. Were they part of a master's degree program? Yes \_\_\_ No \_\_\_
  - d. Were they inservice courses? Yes \_\_\_ No \_\_\_
  - e. Other, please explain \_\_\_\_\_
5. Have you worked with handicapped students in your teaching experience? Yes \_\_\_ No \_\_\_

If yes, how many do you estimate that you have worked with? \_\_\_\_\_
6. Have you worked with elementary students in your teaching experience? Yes \_\_\_ No \_\_\_
7. Please list any other positive aspects of the course that you care to:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

APPENDIX I  
INTERVIEW SCHEDULE

Interview Schedule

## I. Background Information

1. What subjects are you teaching?
2. How many years have you been teaching?
3. What is your highest college degree?
4. Have you had any additional special education courses (other than the Exceptional Adolescent in the Regular Classroom)?

If yes, how many hours?

Did you have this work as a part of your BS/BA degree?

5. Have you ever taught handicapped children?

If yes, how many students do you estimate you have taught?

What kinds of handicapping conditions did the students have?

## II. Information Regarding the Course

1. What information from the course have you used the most?
2. What information from the course was the least useful to you?
3. Have you used the material with handicapped students?

If yes, how?

4. Have you used the material with non-handicapped students having trouble in your class?

If yes, how?

5. Have you shared the information with any of your colleagues?

If yes, what were the circumstances?

6. As a result of the course, do you feel better prepared to discuss handicapped students with special education personnel?

If yes, how?

If no, what else would you need?

7. Do you feel that you can identify the antecedents and consequences surrounding a behavior problem in your classroom?

8. Do you feel that you can implement an intervention strategy?

9. Have you modified any materials, testing procedures, or teaching techniques in your classroom?

If no, why not?

If yes, what?

10. What was the most beneficial aspect of the course?
11. What was the least beneficial aspect of the course?
12. How has the course affected your teaching?



APPENDIX J  
LETTER TO CLASS MEMBERS  
SOLICITING PARTICIPATION IN THE STUDY

**CHESTERFIELD COUNTY PUBLIC SCHOOLS**

CHESTERFIELD, VIRGINIA 23832

, Division Superintendent

Secondary Schools and Special Services

September 10, 1981

Dear Colleagues,

The Secondary Inservice Grant has been funded for the third year. Our goal is to continually improve and provide services to handicapped students in the least restrictive environment (LRE). As you know, the LRE is often the regular classroom.

Through your participation in the secondary course, The Exceptional Adolescent in the Regular Classroom, you have assisted us in reaching this goal. This year, we are currently in the summative evaluation phase of the program and again need your help in evaluating the impact of the course over an extended period of time. To do this, we are asking your voluntary participation in an assessment ten months following your involvement in the class. The assessment includes the re-administration of the posttest and a questionnaire regarding the practicability of the course to you and its effectiveness in meeting your individual needs. We anticipate that the assessment, which will be conducted in October, should not take more than 30 to 45 minutes of your time. A follow-up interview will be held with approximately 10% of your class and will take about fifteen minutes per person.

To assist us in organizing the evaluation phase of the project, please complete the attached card expressing your willingness to participate and the best time for the administration of the evaluation components.

Should you have any questions, please do not hesitate to call me at . We look forward to your participation in the follow-up study.

Sincerely,

Jody L. Sands,  
Assistant Director for Special  
Education

/ba

APPENDIX K  
NOTIFICATION LETTER TO PRINCIPALS

**CHESTERFIELD COUNTY PUBLIC SCHOOLS**

CHESTERFIELD, VIRGINIA 23832 —

, Division Superintendent

Secondary Schools and Special Services

To:               SECONDARY PRINCIPALS

From:             Jody L. Sands

Reference:       Summative Course Evaluation: The Exceptional  
                    Adolescent in the Regular Classroom

Date:             September 10, 1981

We are currently in the third year of funding for the Secondary Inservice Project. The Project has assisted us in providing inservice training in working with handicapped students in the regular classroom to over three-hundred secondary teachers. The results of our initial evaluations, including both teacher opinion and knowledge gained, indicate that the course has been highly successful. We have not assessed, however, the impact of the course over time. This year, in addition to offering the course again, we will assess the effectiveness of the course over an extended period of time. Your teachers who were involved in the Fall 1980 and Spring 1981 courses have been selected to participate in the voluntary follow-up. Each participant will be asked to retake the posttest and to complete a questionnaire regarding the use and practicability of the course. It is anticipated that their participation will not take over 45 minutes. Ten percent of the participants will also be asked to participate in a fifteen minute interview. I am asking your support with the teachers in encouraging them to participate in this follow-up.

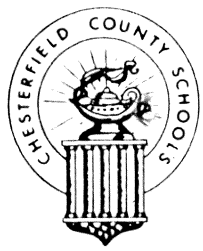
Thank you for your continued support of the program.

ba

APPENDIX L  
RECHECK LETTER SOLICITING  
PARTICIPATION IN THE STUDY



APPENDIX M  
RESEARCH APPROVAL IN  
CHESTERFIELD COUNTY PUBLIC SCHOOLS



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# CHESTERFIELD COUNTY PUBLIC SCHOOLS

CHESTERFIELD, VIRGINIA 23832 —

, Division Superintendent

Secondary Schools and Special Services

September 8, 1981

Mrs. Jody Sands

Dear Mrs. Sands:

I am pleased to inform you that the Research Committee has approved implementation of your proposed project within the Chesterfield County Public Schools. Please secure my approval of forms, correspondence, and activities prior to implementation.

Sincerely,

, Director  
Pupil Personnel Services

JBF:ma



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