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Classroom Modifications for Learning Disabled Adolescents: The Effects of Inservice and Follow-up Consultation on Four Regular Classroom Teachers

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CLASSROOM MODIFICATIONS FOR LEARNING DISABLED ADOLESCENTS: THE EFFECTS OF INSERVICE AND FOLLOW-UP CONSULTATION ON FOUR REGULAR CLASSROOM TEACHERS

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This Dissertation meets the standards for appearance and conforms to the style and format requirements of the Graduate School of the University of North Dakota, and is hereby approved.

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ABSTRACT

This study asked the question: What are the effects of an inservice on classroom modifications for secondary learning disabled students on the teaching practice of four highly able teachers? A secondary question asked was: To what extent are teachers' behavior and attitudes affected by follow-up consultation? The participants were four secondary regular classroom teachers representing four curricula areas (English, social studies, health, and biology). All four had been recognized as having the ability to work well with learning disabled students. The procedure used for the study was a form of naturalistic inquiry, specifically participant observation. All four teachers participated in the inservice training provided by the researcher. In order to compare the differences between inservice with and without follow-up, two of the four teachers participated in follow-up consultation. Data were collected from: (a) field notes of classroom observations made in the classes of the four teachers before and after the inservice, (b) informal conversations with the four teachers and the learning disabilities teacher, and (c) formal interviews with the four teachers, the learning disabilities teacher, and the building principal. Only one of the four participants made significant changes in behavior and attitudes. The hypothesis that evolved was that there were existing constraints (e.g., lack of time to

implement change, lack of communication between regular and special educators, and large numbers of learning disabled students in certain classes) that interfered with the participants making significant classroom modifications. It was found that two conditions necessary for changing teacher practice (i.e., administrative support and involvement, and effective collaboration between the learning disabilities department and classroom teachers) were not in place. The "gap" between the special and regular educators was due to a lack of communication among them, as well as a lack of understanding of each other's roles. Teacher education in both regular and special education will have to address the issue of collaboration in making classroom modifications if learning disabled students are to be successfully mainstreamed. Other factors that may exist as barriers to change must also be identified and addressed.

CHAPTER I: INTRODUCTION

Mainstreaming and the Regular Classroom Teacher

The positive benefits of providing opportunities for handicapped students (specifically the learning disabled) to participate in regular school programs with nonhandicapped students has been well established through research studies (Bauch, 1979; Johnson & Ward, 1982; Laurie, Buchwach, Silverman, & Zigmond, 1978; Munson, 1987; Sabatino, 1981). Few classroom teachers however, are prepared for this task. There has been considerable rhetoric on whether or not to mainstream (placing handicapped students in the regular classroom for all or part of the school day), but very little advice on how to carry out mainstreaming effectively. Very few models for mainstreaming address the instructional and curricular matters which must be dealt with to ensure the instructional integration of the special education student into the regular classroom (Laurie, et al., 1978).

Too often mainstreaming occurs without any planning or preparation. Little regard is given to what goes on in the regular classroom or to the skills and/or attitudes of the classroom teacher. D'Antoni (1984) pointed out that if mainstreaming is considered to be simply a return to the normal classroom without basic changes in programming, the children will be "put back into the very failure situations which led to their specialized placements" (p.1).

Controversy and disagreement abound about the role of regular education teachers in the education of mainstreamed handicapped students. The question of to what extent the regular education program should be modified or adjusted to meet the needs of handicapped students keeps surfacing. According to Public Law 94-142, whenever a handicapped student is placed in a regular classroom, the responsibility of the regular educator for that child is the same as for any other child in the classroom. Accommodations and modifications of the learning environment are the primary responsibility of the classroom teacher. Questions remain, however, as to what these modifications should be.

Seidenberg (1988) examined studies of secondary school settings and found that the predominant classroom format used by secondary teachers is seatwork and lecture. There is little student/teacher interaction and minimal feedback given to students. Teachers provide few, if any, advance organizers that might help students listen or take notes more effectively. Teachers seldom check for understanding of instructions or content. Students are required to work independently on reading and writing assignments. In general, teachers expect students to have acquired the skills necessary to function independently. However, the learning disabled student has often not acquired the skills to function independently and will experience learning difficulties in the regular classroom.

The classroom teacher needs specific suggestions for alternative methods that effectively aid in dealing with these learning difficulties (Lieberman, 1980). Lieberman (1980) points out that educators have been "locked into the untenable position" of spending hours and hours writing an Individual Education Plan (IEP) that will help the special education teacher work with a student for one period a day, while spending only a few minutes determining what the student will do in the regular classroom. For a mainstreaming program to be effective, more time must be spent on planning for what will occur in the regular classroom.

Mainstreamed students should be able to experience success in a regular classroom with the enhanced self image that accompanies a positive experience (Ribich & Debenham, 1987). This success will not occur unless there is extensive planning and programming for the student's placement in the regular classroom. Planning should include the use of accommodations and modifications in the regular classroom setting. Maximizing the use of accommodations can be a significant factor in 1) providing access to equitable educational opportunity for the learning disabled student, and 2) increasing the probability of his/her success (Ribich & Debenham, 1987).

Why Make Classroom Modifications?

There are four reasons that classroom modifications should be made for mainstreamed learning disabled students. First of all, learning disabled (LD) students can learn in the regular classroom. Provided with the appropriate curriculum format, the LD student can be successful in all academic subjects.

Secondly, classroom modifications provide the means for LD students to be successful. Success improves the student's self-esteem: Improved self-esteem promotes improved behavior. A student engaged in learning is seldom a behavior problem.

The third reason for making classroom modifications is that traditional evaluation techniques do not assess what an LD student has learned. Often the LD student has learned a great deal from the teacher, but the teacher has not found a way to adequately assess what was learned. Changing the format of the evaluation technique can provide the teacher with an accurate assessment of what the LD student has learned, as well as accurate feedback about the teacher's teaching skill. Too often the teacher feels he/she has taught the student nothing when actually the teacher has taught the student a great deal.

The fourth reason for making classroom modifications should be the least important to classroom teachers, but is the reason that is probably most cogent: Public Law 94-142, The Education for All Handicapped Children Act of 1975, clearly

states that handicapped students are the responsibility of both regular and special education, and that necessary modifications must be made to facilitate the handicapped student's placement in the "least restrictive environment." In the case of mildly/moderately handicapped LD students the "least restrictive environment" will be the regular classroom. In order for such students to be academically successful, there is a need to modify classroom approach.

What Are Classroom Modifications?

Making accommodations and modifications refers to a process whereby the learning environment of the student is modified to promote learning (Gearheart, 1985). The focus is on changing the learning environment or the academic requirements so that students may learn in spite of learning problems. The process may involve a number of techniques or procedures including 1) modified instructional techniques, 2) modified academic requirements, 3) more flexible administrative practices (Gearheart, 1985), 4) changing the format of materials and presentation, and 5) changing teachers' attitudes, student/teacher interactions, and teachers' expectations of students (Bring & Chalmers, 1985).

Many learning disabled adolescents can be successful in certain academic areas. However, learning in a traditional way, where the teacher uses group instruction, is often most inefficient or even impossible for them. By providing options to the traditional instructional mode and by understanding

students' strengths and weaknesses, teachers can structure a school program appropriate to the learning disabled's need for acquiring the necessary knowledge to compete in society (Mosby, 1977).

Changing Teacher Practice

Laurie et al. (1978) felt it was common for mainstream teachers to be reluctant to try something new, to hesitate in selecting an alternative approach to implement in their classrooms, and initially, to reject all suggestions. Possibly these behaviors are attributable to regular education teachers' lack of skills and knowledge rather than the more obvious "I don't care" attitude. Project TEAM (1977) of the California State Department of Education found that resistance by regular education teachers to placing learning disabled students in regular classes was attributable to the inabilities of the regular education teachers to make the needed behavioral and instructional adaptations necessary to ensure student success.

A project report done by the Iowa State Department of Education (1986) found that teachers hold favorable attitudes towards mainstreaming, but feel they do not have the time, support, or training necessary for working effectively with learning disabled students in their classrooms. The project considered the perceptions, attitudes, and needs of regular education teachers relative to accommodating learning disabled students in their classrooms and came up with the following

questions: 1) What accommodations or modifications do regular education teachers view as reasonable in terms of time, change from usual teaching practice, and need for assistance in implementation and ongoing use? 2) What type of staff development is required to insure implementation of reasonable accommodations in regular education classrooms and how should this training be delivered? 3) What type of support do classroom teachers need in implementing and maintaining the use of reasonable accommodations? If the effectiveness of mainstreaming rests on regular education teachers, then it seems only right that they should receive training that meets all of their needs, and continuous and ongoing support as they implement accommodations and modifications in their classrooms.

Zigmond, Levin, & Laurie (1985) surveyed the attitudes of mainstream high school teachers and interviewed mainstream teachers on their accommodative powers. In the survey of attitudes, responses to the questionnaire suggested that while many secondary school teachers were tolerant of the idea of integrating learning disabled students into mainstream classes, most of the teachers would have preferred not to have them there. It seems logical that if a teacher is unenthusiastic about the placement of a learning disabled student in his/her class, that student is likely to have a difficult time.

In the interview on the accommodative powers of mainstream teachers, it was found that teachers believe learning disabled students have special problems and need special attention. At the same time, it was clear why many of the teachers interviewed did not feel it was an extra burden to have these students placed in their regular classes; they did very little that was different or special for these students. Teachers still planned only one lesson for the entire group of students. They made heavy demands on students to read textbooks, workbooks, and dittos and to formulate written responses. They used little variation in grouping arrangements or in classroom materials regardless of the composition of the class. In other words, for most of the teachers interviewed, having a learning disabled student in the class did not affect their planning for or implementation of instruction. They thought they should be making adjustments and knew they were necessary, but in actual practice they were doing very little that was different for the learning disabled student. Therefore learning disabled students who needed adjustments were not being successful in their classes.

Purpose of the Study

The purpose of the study was to investigate the effects of inservice training and follow-up consultation in making classroom modifications for learning disabled adolescents on

the behavior and attitudes of highly able regular education teachers. Through the use of:

(a) a half day inservice of four classroom teachers,

(b) a manual for making classroom modifications,

(c) classroom observations before and after the inservice,

(d) and ongoing consultation following the inservice, skills in making classroom modifications were taught to classroom teachers so they could meet the individual needs of learning disabled students in their classes. Although the focus of the study was on learning disabled students, the researcher felt that making classroom modifications would also benefit other students with learning difficulties.

The procedure used was a form of natural inquiry, specifically participant observation. The participants were four regular classroom teachers in a senior high setting. Data was collected from:

(a) field notes of classroom observations made in the classes of the four participants before and after the inservice over the course of the study, i.e., four months,

(b) informal conversations with participants during classroom observations and meetings set up for consultation,

(c) and formal interviews with participants and key informants, i.e., learning disabilities teacher and building principal.

Major Questions Studied

The major questions which this investigation explored were:

1. Does inservice training affect the behavior and attitudes of four regular education teachers in making modifications for mainstreamed learning disabled students? If so, what are these effects?

2. Does follow-up consultation affect the behavior and attitudes of four regular education teachers in making modifications for mainstreamed learning disabled students? If so, what are these effects?

These questions will be explored through a series of related questions. For example;

3. Do teachers start making modifications after inservice training? If so, to what extent are modifications made? If not, why not?

4. Do more extensive modifications occur after the inservice or after the follow-up consultation?

5. Are there discrepancies between what teachers say they are doing for learning disabled students in their classrooms and what they are actually doing?

6. Do teachers view making modifications differently after inservice training and follow-up consultation than they did before the inservice?

7. Do teachers view learning disabled students differently after implementing modifications in their classrooms?

8. Are there factors that may have an impact on the teachers' willingness to modify practice?

Significance of the Study

The secondary regular education teacher typically has little background in special education and often doesn't have the necessary skills or knowledge to work with the learning disabled adolescent (Vance, 1977). Lieberman (1980) reminded us that the quality of mainstreaming depends on the quality of regular education. He held that special educators are now asking regular educators to do things for learning disabled students within the context of regular education programming that the regular educators have never contemplated for nonhandicapped students. Not only do we expect regular education teachers to take learning disabled students into their classrooms, but we expect them to do so willingly, with open arms. Little regard is given for regular educators' needs in the area of skills and knowledge in dealing with handicapped students.

Research indicates that regular education teachers perceive themselves as unprepared to teach learning disabled students and are often reluctant to make curricular and instructional modifications for mainstreamed students (Munson, 1987). Yet, as Haman, Isaacson, and Powell (1985) pointed out, mainstreamed learning disabled students can experience success only when the classroom teacher is able to meet individual learning needs through appropriate curriculum modifications.

DeWitt (1977) stated that it is not a lack of intellectual ability which handicaps the learning disabled adolescent, but the lack of regular curriculum modifications. DeWitt found that the classroom teacher seldom has special training in the field of learning disabilities or modifying curriculum for these students. The need for intervention (e.g., inservice, consultation) in changing teacher practice is obvious. If mainstream teachers are introduced to practical, alternative teaching methods, and if these teachers receive ongoing support and encouragement for implementing these methods, learning disabled students reap the benefits (Laurie, et al., 1978).

It is increasingly recognized that regular education teachers must be trained to gain the skills and knowledge to make classroom modifications for learning disabled adolescents. Regular education teachers must also receive support and feedback while implementing modifications in their classrooms. Several studies have pointed to these facts, but few have actually analyzed the results of such training and ongoing support. Those studies, investigated by the researcher, that did analyze the results of such training and ongoing support, used quantitative analysis or a combination of quantitative and qualitative analysis. The author felt that qualitative analysis through participant-observation may yield results that had not previously been found in studies on the same topic. The significance of this study was to

observe the effects of such training, support, and feedback on the behaviors and attitudes of regular education teachers.

Definition of Terms

Mainstreaming - the inclusion of handicapped students in the regular education program for all or part of the school day. The amount of time spent in the regular classroom can range from one hour a day (e.g., phy.ed., music) to the entire day.

Least Restrictive Environment - Public Law 94-142 requires that the educational setting in which handicapped students are served must be the least restrictive setting in which their needs can be met. At one end of the least restrictive environment continuum the student is totally integrated into the regular classroom with consultation provided by a specialist to the classroom teacher. At the other end of the continuum the student is served in an institutional setting.

Learning Disability - a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations.

Limitations of the Study

Two major limitations may have affected the study. These limitations needed to be considered as results were analyzed: the size of the sample and the length of time the study was in progress.

The sample was limited to four teachers representing four different content areas; English, biology, health, and social studies. The length of time the study was in progress was determined by variables such as school schedules, teacher schedules, and the time frame within which the researcher had to conduct the research.

Other limitations may also have affected the results of the study: the structure of secondary schools, the researcher's lack of access to students, and the varying perceptions of secondary teachers about the term "learning disability." Interaction between the researcher and the subjects was often terminated abruptly by bells ringing. A lack of free time on the part of the subjects limited the amount of interaction that could occur. Permission to interview students was not sought, therefore their perceptions could not be determined. In that secondary teachers have divergent understandings and perceptions of the term "learning disability", the view of students having a "learning disability" would vary. The learning disability could vary from being viewed as: (a) a genuine, innate handicap, (b) the result of a curricular mismatch, or (c) laziness on the part of the student.

CHAPTER II: REVIEW OF THE LITERATURE

The field of learning disabilities is a fairly new one in special education. Its evolution has gone from separate programs and self-contained classrooms to mainstreaming. The current trend and emphasis in learning disabilities is to place learning disabled students into regular classes for part or all of the school day. This places new demands on regular education teachers who frequently do not have the skills to make necessary modifications for these students placed in their classrooms. It appears regular education teachers will need ongoing training, support, and feedback in implementing modifications for learning disabled students.

This chapter will review the literature written on the following topics: (a) the definition of a learning disability, (b) approaches/models used with learning disabled adolescents, (c) the concept of mainstreaming, (d) changing teacher practice, and (e) modifications in the regular classroom.

What is a Learning Disability?

Lerner (1985) stated that the common characteristics of the learning disabled child are: a) disorders of attention including hyperactivity, distractibility, and attention-deficit disorder; b) failure to develop and mobilize cognitive strategies for learning, including organization, active learning set, and metacognitive functions; c) poor motor abilities, including fine and gross motor coordination,

general awkwardness and clumsiness, and spatial problems; d) perceptual problems, including discrimination of auditory and visual stimuli, auditory and visual closure, and sequencing; e) oral language difficulties, including listening, speaking, vocabulary, and linguistic competencies; f) reading difficulties, including decoding, basic reading skills, and comprehension; g) written language difficulties, including spelling, handwriting, and composition; h) math difficulties, including quantitative thinking, arithmetic, time, space, and calculation facts; and i) inappropriate social behavior, including social perception, emotional behavior, and establishing social relationships.

Seigel and Gold (1982) recognized the same characteristics and pointed out that they are interrelated, with one characteristic frequently influencing another or being the cause/effect of another. Rarely do the characteristics appear singly, but usually in clusters. Unlike other categories of exceptionality, where a single trait holds the group together, there is considerable variability among the learning disabled population (Seigel & Gold, 1982).

In contrast, Mercer (1983) simplified the categorization of learning disability characteristics into the following disorders: a) language--both spoken and written, b) perceptual--the inability to recognize, discriminate, and interpret sensation, c) motor--hyperactivity, hypoactivity, poor fine and gross motor coordination, general awkwardness,

and frequent delayed motor milestones, d) social-emotional problems, e) memory problems, and f) attention problems and hyperactivity.

The learning disability term encompasses a cluster of disorders and no one individual will display all of them. Deficits are manifested in different ways at different age levels. The term "learning disability" itself represents a wide range of meaning within the literature with considerable disagreement about its definition. Some like Coles' (1987) view of the term "learning disabilities" as a social construction where the learning problem is caused by the "relationship and interactions between the individual and social conditions" (p.27), while others hold that the term refers to "a causal intrinsic neurological dysfunction" (p.14). For the purpose of this study, a learning disabled student will be one who has been identified as such by the school district.

Approaches/Models Used with the Learning Disabled at the Secondary Level

There are various models and/or approaches that can be used to meet the individual needs of learning disabled students. Four models/approaches to the instruction of learning disabled students have been identified by Lerner (1985). These include the following: (a) the basic skills remediation model, (b) the functional curriculum model, (c) the tutorial model, and (d) the work-study model. The basic

skills remediation model attempts to improve a student's basic academic skills through remedial instruction. Math and reading are stressed and instruction usually occurs in a resource room.

The functional curriculum model teaches students to function in society. Survival skills are taught, usually with a separate curriculum from regular education, in a self-contained classroom.

The tutorial model provides instruction in academic content areas to provide students with success in the regular classroom. Instruction usually takes place in a resource room.

The work-study model instructs students in job and career related skills. Students receive on-the-job experience where they spend a half day on the job and the other half in school. Instruction usually occurs in a self-contained setting.

Another widely used model is the learning strategies model which teaches students "how to learn" rather than specific content. Alley and Deshler (1979) describe the design of the learning strategies model:

> The goal of the learning strategies model is to teach learning disabled adolescents strategies that will facilitate their acquisition, organization, storage, and retrieval of information, thus allowing them to cope with the demands of the secondary curriculum and the demands of social interaction...these youngsters are viewed as

> having the potential for successfully adjusting to the demands of the secondary curriculum. Further, the learning strategies approach has been designed to promote independence of action by these adolescents both in and out of the classroom and to facilitate the transfer and generalization of strategies across tasks and settings. (p.8)

One important way of meeting the needs of the learning disabled student in the mainstream setting is by the consulting teacher model. In this role the learning disabilities teacher functions as an advisor to the regular classroom teacher by providing help in modifying curricula and approaching individual learning styles. In other words, it is "geared specifically to students and teachers in the mainstream, with the intent of reducing the need for pullout special education services" (Huefner, 1988, p.403).

Huefner (1988) pointed out the potential benefits of the consulting model, as well as the possible dangers of casual or premature implementation. Potential benefits included: (a) a reduction of stigma, (b) on-the-job training for regular educators in special education skills, (c) a reduction of mislabeling of nonhandicapped students, (d) spillover benefits to regular students, and (e) the suitability to the needs of secondary students who travel from class to class and teacher to teacher.

If implemented casually or prematurely, the following dangers may be encountered: (a) ineffective caseload management with the consulting teacher managing a caseload too heavy to enable effective consultation, (b) unrealistic expectations such as viewing the model as a panacea with disregard for the implementation of other interventions, (c) inadequate support from regular educators who have not been trained to participate in such a model, and (d) faulty assumptions that the model will be cost effective.

The major problem with collaboration between regular and special education, as seen by Pugach and Johnson (1989), is "overcoming the tendency among specialists to take on an expert role" (p.233). They believe that mutual recognition of the expertise of classroom teachers and special educators is necessary to bridge the gap between them and thus promote collaboration. A common understanding of each others' strengths and weaknesses and the willingness to learn from each other are essential to the success of the consulting model (Pugach & Johnson, 1989). Ultimately, the success of the consulting model requires collaboration between regular and special education.

The Concept of Mainstreaming

The Education for All Handicapped Act, P.L. 94-142, of 1975 specifies that handicapped children must be taught within the "least restrictive environment" (the greatest extent to which handicapped students can be successfully served with

nonhandicapped students) which has led to placement within the educational mainstream (Siegel & Gold, 1982). Siegel and Gold stated that the thrust towards mainstreaming began in the 1960's when the effectiveness of the self-contained special class was questioned. It was found that self-contained placement did not improve academic performance.

Mainstreaming has become the "preferred choice" for learning disabled students as Johnson and Morasky (1980) pointed out:

> The general concept of mainstreaming permeates almost all present day learning disability delivery systems as practitioners attempt to discriminate and facilitate clearly the development of such readiness. Since diagnosis of a "learning disability" carries with it the intended implication of normal potential, the whole idea of keeping the deficit performing child as close as possible to the normal classroom situation and demands has long been functional in the learning disability portion of the special education field. (p.168)

The question is "how" rather than "whether" to mainstream learning disabled students. Johnson and Morasky (1980) cited the major problems in mainstreaming to be teacher biases, lack of a sufficient service-delivery model, and teacher education (since many universities do not require special education preparation for regular education teachers). Teachers who had

taken special education courses or who had training in mainstreaming were more willing to take learning disabled students in their classrooms and had more favorable attitudes towards mainstreaming (Harasymiw & Horn, 1976; Stephens & Braun, 1980).

A study done by Rogers (1987) examined whether significant differences existed in the expressed attitudes of elementary, middle, and secondary level regular education teachers toward mainstreaming. Rogers used a questionnaire and analyzed the differences in the subjects' scores. He found significant differences in expressed attitudes of regular education teachers based on the level of school in which they worked. Secondary and middle school teachers were less supportive of mainstreaming than elementary teachers.

In 1985, Zigmond, Levin, and Laurie conducted four studies of 429 secondary teachers in 12 high schools in Pittsburgh. Two of the four studies dealt with the accommodative power of mainstream secondary schools and the extent to which teacher attitudes contributed to failure of learning disabled students in regular high school classes. Study One surveyed the attitudes of mainstream high school teachers. The responses to a questionnaire suggested that while many secondary teachers were tolerant of the idea of mainstreaming learning disabled students into regular classes, most of the teachers would have preferred not to have them there.

In Study Two regular classroom teachers were interviewed on the way secondary classrooms were structured and on the types of modifications mainstream teachers saw as necessary to meet the needs of learning disabled students. The information gathered in the interviews indicated that teachers believe learning disabled students have special problems and need special attention. Many of the teachers interviewed did not feel it was an extra burden to have these students placed in their regular classes. Upon closer examination of the information, it was found that these same teachers did very little that was different or special for learning disabled students. The researchers concluded that even though regular education teachers thought they should be making modifications and that modifications were necessary, in actual practice they were doing very little. The few modifications that some teachers made did not place heavy demands on their time or energy and were primarily in the manner in which grades were handled.

In a research study by Blietz and Courtnage (1980), regular elementary and secondary teachers and administrators were surveyed on concerns they had regarding inservice program delivery on the topic of mainstreaming. A questionnaire was completed by 197 participants. The results of the questionnaire indicated that most teachers felt inadequate in their knowledge about mainstreaming and felt a need for

inservice before students were mainstreamed into their classrooms.

Changing Teacher Practice

Change is difficult. Bristow (1985) pointed out that there is comfort in the status quo, as well as a sense of security and stability. Teachers, just as many others, do not change easily. The necessary agents of change must be available, as well as the needed attitudes to make the changes.

Inservice is the most widely used agent of change. Purcell (1987) stated that inservice education was essential to the adoption of most new programs and practices. Bristow (1985) stated that "inservice education is designed to promote change, to encourage teachers to examine and (possibly) change their beliefs, increase their knowledge, and ultimately modify their practices" (p.157).

Several research studies have dealt with the inservicing of regular education teachers in mainstreaming. In 1982, Murray and Beckstead implemented Project Reach (Regular Education for All Children with Handicaps) which was an inservice approach to the integration of handicapped students. The Reach inservice was ongoing, systematic, and focused on the attitude and behavior changes in regular education teachers and students. The results of the study indicated that the attitudes and behavior of both teachers and students changed positively as a result of the inservice.

In contrast, Hendricks and Sloan (1981) investigated the impact of an inservice program on the concerns and needs of secondary teachers toward mainstreaming. Results of the study revealed that the inservice program had little or no impact on the teachers' concerns or needs regarding mainstreaming. A limitation of the study, lack of follow-up after a one day inservice, was significant. It was concluded that a more prolonged approach to familiarizing teachers with mainstreaming may be needed.

Orlich (1983) described the characteristics of effective inservice:

1. Participants play an active rather than a passive role by developing materials, role-playing, or problem-solving.

2. Inservice is coordinated by a continuous rather than a one-shot effort.

3. Objectives are precisely and clearly stated.

4. Teachers are actively involved in planning and developing the inservice.

5. Direct in-classroom follow-up occurs after the initial training.

6. The building principal supports and is actively involved in the inservice.

7. Knowledge must be easily translated into classroom use.

A research-based inservice model for secondary teachers in California was developed by Mohlman, Kierstead, and Gundlach (1982). The inservice model was piloted between January and May of 1982. The teachers' reactions to the inservice included: (a) appreciating the opportunity to share problems, solutions, and good ideas; and (b) liking the emphasis on practical, easy to use techniques. Mohlman, et.al. (1982) found that the participants in the model inservice did change their teaching behavior in desired ways as a result of the collegial spirit generated by the inservice model.

In a study conducted by Conley (1983), 32 secondary teachers participated in an inservice to increase students' reading achievement. Conley concluded that inservice was vital for classroom teachers since students made significant gains in reading achievement. She further concluded that if teachers are to implement changes, they need assistance in doing so in an ongoing format that provides feedback and support.

The importance of follow-up assistance after initial inservice training has been stated in several studies (Bristow, 1985; Conley, 1983; Hendricks & Sloan, 1981; Orlich, 1983). Bristow (1985) noted comments made by teachers two weeks after an inservice on content reading:

> "I know they are good ideas, but somehow it's easier to keep doing what I've been doing all along."

"I'm back in my classroom alone and I'm not sure what to do."

"The work load of making the changes discussed makes me reluctant to start."

"What if I try the strategies and they don't work well?"

"The students are used to the way things work now and while some aren't making good progress, things are running smoothly and I'm not sure I want to rock the boat." (p.152)

Bristow (1985) found that the major obstacles to strategy implementation were the size of the task, difficulty applying the strategy back in the classroom, making the transition from knowledge to practice, and coping with change, tolerating failure, and making modifications until the strategy works well. She concluded that follow-up assistance of various types provides invaluable support when these obstacles are encountered.

In 1987, Miller conducted a study of the Less Restrictive Placement Personnel Training Program (LRP). The program was designed to develop materials and training to increase the number of learning disabled students mainstreamed into regular education. At the time of the study, the program had been in existence for three years. Miller used interviews, observation, and questionnaires to analyze the effectiveness of the program. He found a favorable reaction on the

participants' part to the training as well as enhanced communication between the regular and special education staffs.

The attainment of new skills does not by itself ensure transfer to classroom use (Joyce & Showers, 1983). Sparks (1988) stated that teacher change is the desired outcome of inservice education. In a research project on teachers' attitudes toward change, Sparks (1988) examined the relation between teachers' perceptions of recommended practices and their subsequent implementation of those practices. Teachers who improved their teaching the most valued the recommended practices, were willing to experiment with recommended practices, and were confident that they could make improvements in their classes. In contrast, the non-improving teachers tended to defend their teaching, attempted fewer changes, and had lower expectations of themselves and their students.

Modifications in the Regular Classroom

Gearheart (1985) defines modifications in the regular classroom as a process whereby the learning environment of the student is modified to promote learning. The focus is on changing the learning environment or the academic requirements so that students may learn in spite of learning problems. Modifications may involve a number of techniques or procedures including 1) modified instructional techniques, 2) modified academic requirements, 3) more flexible administrative

practices, (Gearheart, 1985) 4) changing the format of materials or presentation, and 5) changing teachers' attitudes, interactions with students, and expectations for students (Bring & Chalmers, 1985).

Research (Laurie, Buchwach, Silverman, & Zigmond, 1978) indicates that before modifications can be made effectively in the classroom certain prerequisites must be met. First, regular and special education administrators must view the task of making changes in mainstream classes as important and necessary. Second, time must be built into the schedules of regular and special educators for planning and preparation needed to make necessary modifications. Finally, regular and special educators must learn to work cooperatively.

Several research studies (Bauch, 1979; DeWitt, 1977; Haman, Isaacson, & Powell, 1985; Iowa State Department of Education, 1986; Laurie, et. al., 1978; Mosby, 1977; Project TEAM, 1977; Ribich & Deneham, 1987; Sabatino, 1981; Zigmond, 1977) indicate that regular classroom teachers need inservice in making modifications along with ongoing support and feedback during implementation. Project TEAM (1977), from the California State Department of Education, advocates that in order for effective modifications to take place, regular education teachers must attend inservices.

Project TEAM (1977) also noted that regular education teachers spend more time making modifications in the beginning, but learn techniques that are useful for their

entire class. As time goes on, the needs of learning disabled students are more easily met and require minimal follow-up by the teacher.

The number and types of modifications that are made vary. In a research study of 26 regular classroom teachers, Munson (1987) found that the number of modifications made for learning disabled students was minimal. The most frequent modification made was at a rate of approximately one per regular education teacher surveyed. Munson also found that regular education teachers made "typical" modifications more often than they made "substantial" modifications. Munson defines "typical" modifications as those that a regular education teacher might make for any student, such as format of directions and assignments or classroom test administration procedures. "Substantial" modifications are defined as those that alter the difficulty level of tasks for learning disabled students.

In the same study, Munson (1987) found that older, more experienced teachers and teachers with large classes made fewer modifications and held less positive attitudes toward making modifications. Haman, Isaacson, and Powell (1985), in their research study of 71 secondary classroom teachers in North Dakota, found that the strategy seen as most valuable by classroom teachers in expanding their knowledge of how to instruct secondary learning disabled students was positive reinforcement. The lowest rated strategy was having the

student receive instruction totally different from non-handicapped students.

From his experience as a special education director, Mosby (1977) suggested that the following modifications could be implemented: a) emphasize and assess the acquisition of knowledge rather than the utilization of specific skills; b) use cassette tape recordings of books; c) test students using oral examinations; d) use visually presented materials; e) highlight major ideas of textbooks; f) break up assigned tasks into small sequential steps; g) have the student keep daily check lists for homework; h) deemphasize precision in spelling and arithmetic and provide aids, such as a dictionary, calculator, and math tables; and i) allow students to make oral reports or demonstrations in place of written ones.

Based on her experience working with learning disabled adolescents, Kutsick (1982) emphasized that the student/teacher interaction and acceptance of the student by the teacher are some of the most important modifications that can be made. Kutsick went on to suggest modifications that can be made in the areas of reading, math, and language arts. In the area of reading, previewing, outlining, and highlighting can be taught to learning disabled adolescents. Teachers can also supplement texts with less difficult reading material and provide recordings of textbooks. In the area of math, calculators can be used to check answers and math tables can be provided so that the student can concentrate on the

procedures of the computation when they have not learned their math facts. In the area of language arts, tape recorders, typewriters, and computers can enable students to record their ideas and complete written assignments.

In their text, The Learning Disabled Adolescent, Woodward and Peters (1983) provide guidelines for curriculum modifications for learning disabled secondary students as follows: a) courses can be substituted; b) courses can be waived; c) alternative testing and evaluation can be used; and d) parallel courses can be developed.

One model used to facilitate mainstreaming, The Adaptive Learning Environments Model (ALEM), has been implemented successfully in a variety of school settings (Wang, Rubenstein, & Reynolds, 1985). ALEM has five major components:

1. A basic skills curriculum component consisting of highly structured prescriptive learning activities aimed at increasing the school's capabilities to meet individual students' learning needs.

2. An instructional/learning management system designed to maximize the use of curricular materials and students' and teachers' time.

3. A family involvement component to increase communication between home and school.

4. A flexible grouping and instructional team system to increase the use of teachers' and students' talents.

5. A data-based staff development program to increase the implementation of the program.

Research data (Wang, Rubenstein, & Reynolds, 1985) suggested that implementation of the ALEM program leads to changes in classroom processes (e.g., individualized instruction) and student achievement for both handicapped and nonhandicapped students.

Summary

The learning disability term encompasses a cluster of disorders that will be manifested in different ways in each learning disabled student. Due to these differences, various approaches and models, as well as mainstreaming, will be used to meet the individual needs of learning disabled adolescents. In order for mainstreaming to be successful, regular educators will have to make changes in their practice by making classroom modifications. Regular classroom teachers will need ongoing training, support, and feedback in implementing various modifications for learning disabled students.

CHAPTER III: METHODOLOGY AND PROCEDURE

Chapter Three describes the methodology and procedures used in this research study. It is divided into five sections: (a) a discussion of applied qualitative research for education, (b) a discussion of the case study method of inquiry, (c) a description of the subjects who participated, (d) a description of the procedures used, and (e) an explanation of the method of data collection.

Applied Qualitative Research for Education

There are five important features of qualitative research. First, qualitative research uses a natural setting as the direct source of data. As Shimahara (1988) pointed out, "an event cannot be isolated from the context in which it originates, for to do so will destroy the full meaning of experience" (p.80). The researcher is the key instrument and feels behavior can best be understood when it is observed in its natural setting.

A second feature of qualitative research is that it is descriptive. The qualitative researcher tries to analyze the data with all of its richness as closely as possible to the form in which it was recorded. This provides the reader with a clear understanding of what has occurred.

A third feature is that qualitative researchers concern themselves with process rather than simply with products. Quantitative techniques have been able to tell us that changes have occurred in education. Qualitative techniques may

suggest how the changes affect daily activities, procedures, and interactions. It is the process of getting to the product that is of importance to the qualitative researcher.

A fourth feature is that qualitative researchers tend to analyze their data inductively. The direction the research will take evolves during and after data collection and time spent with participants. The picture being constructed takes shape slowly as the researcher collects and analyzes its various parts.

A fifth feature of qualitative research is that "meaning" or participant perspectives are of essential concern. By learning the perspectives of the participants, the researcher can gain access to the inner circle of the situation and discover dynamics that are not visible to an outsider. The researcher will ask participants how they interpret their experiences.

Sherman and Webb (1988) stated that qualitative research implies a direct concern with experience. The experience is understood by the researcher, as nearly as possible, as the participants feel it or live it. The context or situation bounds the experience. All studies, whether qualitative or quantitative, have a qualitative context out of which the study grows and from which conclusions are drawn. The context "unites theory and practice in the most obvious way, to make the research relevant" (p.19).

Giarelli and Chambliss (1988) defined context as the "building up, enriching, and synthesizing of the perceived situation or whole itself" (p.34). The sense of context is a major factor in the sense of question. A question or problem may be formulated in one context, but not in another. By paying attention to existing contexts and helping to create new ones, the researcher looks for inquiries that are innovative and germane (Giarelli & Chambliss, 1988). The aim of qualitative thinking is to achieve a context in which what is uncertain may become clarified and focused.

Research can be conducted for any audience or any purpose. Traditionally, research has been categorized into two types: applied and basic. The purpose of basic research is to add to our general knowledge: Scholarly and scientific communities largely comprise the audience for basic research. The audience for applied research can vary--teachers, administrators, parents, students--but all have in common a concern for the immediate practical implications of the research. The practical implications of the research can be used directly to make decisions about or improvements in programs and practices (Bogdan & Biklen, 1982).

The type of applied qualitative research chosen for this study was pedagogical research. In pedagogical research the investigator is often a teacher, administrator, specialist, or someone close to the practice who wants to use the qualitative approach to do a better job of what they are

already doing (Bogdan & Biklen, 1982). The investigator chose the pedagogical use of qualitative research since her goal was to promote individual change through education. The investigator also served the learner as a consultant and used an inservice training program as the form of data presentation.

The Case Study Method of Inquiry

This section will provide the reader with: (1) an overview of the case study method, (2) a discussion of the criticisms of the case study method, (3) a description of the data-gathering technique used, and (4) a rationale for its selection for this study.

An Overview of the Case Study Method

Case studies become the preferred research strategy when: "how" or "why" questions are asked; the researcher has little control over events; and the focus is on current phenomena within some real-life context (Yin, 1984). A case study is a detailed examination of one setting, one subject, or one particular event. It is a description that is complex, holistic, and involves a plethora of variables that are interrelated, not isolated. Data are likely to be gathered at least partly by personalistic observation and reported using an informal style that may be narrative in nature. Themes and hypotheses will be important, but remain subordinate to the understanding of the case. Yin (1984) provided a more technical definition by stating that "a case

study is an empirical study that investigates a contemporary phenomenon within its real-life context; where the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (p.23).

The best use of the case study is to add to existing experience and humanistic understanding. The naturalistic generalizations that the investigator develops are a product of the experience. These generalizations are derived from tacit knowledge:

> ... how things are, why they are, how people feel about them, and how these things are likely to be later or in other places with which this person is familiar. They seldom take the form of predictions but lead regularly to expectation. (Stake, 1972, p.6)

Educational investigators tend to use the method of case study as they document or portray the everyday experiences of teachers and students. Data gathering for a case study can include "detailed prose descriptions written longhand on yellow pads" (Schulman, 1981, p.8), videotaping, interviewing, and examples of work produced or other relevant materials or documents.

The Assailability of Case Studies

Critics of qualitative research point to the fact that in case studies the subject matter continually changes. When something new happens in the setting, the researcher is tempted to redefine the goals. Because case studies do not

lend themselves to a standardized procedure, such as in testing, survey, laboratory, and ecological work, questions of validity, reliability and generalizability of results have been raised (McCall & Simmons, 1969).

Lincoln and Guba (1985) proposed using the terms 'truth value' for internal validity, 'transferability' for external validity, and 'consistency' for reliability. No matter what term is used, the basic question remains the same: To what extent can the researcher trust the findings of a qualitative case study? "In qualitative research, findings can be considered valid if there is a fit between what is intended to be studied and what actually is studied" (Stainback & Stainback, 1988, p.97). That is, what the researcher attempts to study is represented in the data and portrays the participants' point of view. Themes that emerge are consistently repeated throughout the data and are consistent with the meanings participants draw from and impose upon the classroom situation.

Many researchers have generalization as their basic goal. They seek to "discover generalizations that make it unnecessary...to think through the particulars of each case...and what is good for one is good for all--at least all in the class" (Lincoln & Guba, 1985, p.36). Critics of the case study, contrasting the situation to survey research, do so incorrectly. As Yin (1984) pointed out, the analogy cannot be made since survey research relies on statistical

generalization and case studies rely on analytical generalization.

It is futile to talk about objective reality. We cannot separate the researcher's version or the participant's version from the "real version" or the "real truth". They are one and the same. The "real truth" is what is true for the person within his/her own context.

Studying people in natural settings makes generalizations difficult to achieve (Stainback & Stainback, 1988). Stainback and Stainback (1988) gave two reasons for this difficulty. One is that people are complex, with a variety of unique characteristics. No two people, groups of people, or settings are likely to be the same. The second reason is that circumstances in education are never static or enduring, but dynamic. Generalizations erode over time as changes occur.

Reliability refers to the extent to which one's findings can be replicated. Due to the effects of social location, psychological constitution, and cognitive peculiarities of the researcher, it is unlikely that two researchers would come up with the same results and theory (Hutchinson, 1988). Yet, as Merriam (1988) pointed out, the inability of a study to be replicated does not discredit the results of the original study. Lincoln and Guba (1985) replaced the term reliability with consistency. They suggested that rather than demanding that other researchers get the same results, other researchers

should concur that, given the data collected, the results make sense and are consistent.

Data-gathering Technique

Since the study was an observational case study, the major data-gathering technique was participant observation. Participant observation was defined by Becker and Geer (1957) as a method in which the observer participates in the daily activities of the people under study, either openly in the role as researcher or covertly in some other role. The participant observer observes things that happen, listens to what is said, and questions people over a length of time. Because the participant observer gathers data in a social context rich in cues and information of all kinds, the problems of inference, not dealt with in other types of research, can be dealt with more effectively (Becker & Geer, 1957).

As a participant observer, the researcher may gain access to certain situations and information that are not accessible to "outside" researchers. The "inside" researcher is right there when things happen and subjects may confide in him/her because of relationships that are established (Schatzman & Strauss, 1973). The constant presence of the participant observer leads to familiarity, which in turn leads to rapport and a relationship of trust between the observer and the subjects. This relationship provides for information that is richer and greater in amounts.

The degree of participation by the observer falls along a continuum. The extremes of the continuum range from team teaching to total observation from the back of a classroom. Between the extremes of the continuum you will find observers who participate occasionally to assist individual students, monitor classes, or occasionally provide expertise.

Rationale

The basis for selecting the observational case study method (participant observation) is that it provides a rich experiential context where the researcher becomes aware of discrepant or unexplained facts, causing a sensitivity to their possible implications and connections with other observed facts. The researcher is thus pushed continually to revise and adapt the theoretical orientation and specific problems toward greater relevance to the phenomena under study (Becker & Geer, 1952).

As Stake (1972) pointed out, participant observation is "rich with the sense of human encounter" and deals with "perceptions and understanding that come from immersion in and holistic regard for the phenomena" (p.6). Referring to the case study approach as a way of helping readers to reach certain understandings, Stake said:

> ...one of the more effective means of adding to understanding for all readers will be by approximating through the words and illustrations of our reports, the

> natural experiences acquired in ordinary personal involvement. (p.5)

In order for the researcher to gain insight into the attitudes and behavior of others, a personal relationship between the two is necessary. Since the focus of the study described below was on teachers' attitudes and behaviors, the case study method seemed appropriate because of the personal relationship it requires. Through observation of teachers' behavior, attitudes are revealed. Attitudes can also be surveyed but behavior can only be observed. As Erickson (1986) stated, "...behavior is the result of meaning-interpretations and choices, deliberate and nondeliberate..." (p.129). The choice of the case study method reflected the researcher's belief that the thoughts and actions of people are best understood if seen from their viewpoint.

Subjects

The four teachers who participated in this study were senior high school regular classroom teachers from four content areas: (a) biology, (b) health, (c) social studies, and (d) English. Two of the teachers were male and two were female. They were all veteran teachers with many years of teaching experience. Connie had been teaching for 17 years, Bob for 22 years, Tanya for 19 years, and Mike for 10 years. They were selected from a list of 14 recommended teachers generated by the building learning disabilities teacher. The list of teachers was prioritized by suggestions made by the

learning disabilities teacher and principal. Criteria were willingness to agree to participate in the study, as well as recognized ability to work well with learning disabled students. The latter criterion was considered important because of an openness and willingness to examine practice and make accomodations for individual students; not common among teachers at the secondary level.

The four content areas initially selected for the study included biology, social studies, English, and math. Only one math teacher was recommended for the study; she declined to participate. Therefore, out of the top five teachers recommended for the study, four of them agreed to participate. Due to the fact that the four teachers volunteered to participate in the study, they were not only willing, but unique from the beginning. Since the researcher was new to the community and the surrounds in which the research was conducted, none of the teachers who volunteered were familiar to the researcher.

Procedure

One hour classroom observations occurred in the classrooms of the four participants three to four times a week for six weeks. At the end of the six weeks a half day inservice was held with the four participants on classroom modifications. During the inservice a manual written by the researcher on classroom modifications was distributed and discussed with the participants.

The Inservice

The inservice began with an explanation of why modifications should be made and what kinds of modifications can be made. Specific examples of modified curriculum were shown on an overhead projector. Examples of the curriculum before and after it was modified were shown for comparison. Examples were presented of study guides, book/end of the chapter questions, notetaking outlines, framing, and objective and subjective test formats.

During this portion of the inservice several questions were generated by the participants. Questions centered on the following areas: (a) grading, (b) dealing with complaints by non-LD students, (c) finding the time to modify curriculum, (d) deciding who to modify curriculum for, and (e) determining to what degree curriculum should be modified.

The next portion of the inservice was designed to provide hands-on experience for the participants in modifying curriculum they had brought with them. Due to time constraint this portion was cut short and participants received very little time to practice the techniques they had just learned.

Follow-up

At the conclusion of the inservice it was explained that the researcher would need two of the four participants to participate in weekly one hour consultative sessions. All four participants would continue to be observed. The English

and social studies teachers volunteered to participate in the weekly sessions.

The study then diverged into two formats. One format involved the biology and health teachers who would continue to be observed but would not receive formal consultation. The other format involved the English and social studies teachers who would continue to be observed along with participating in weekly consultative sessions. The purpose for the two formats was to see if the inservice alone or the inservice with consultation had different effect on the participants.

Following the inservice, the researcher resumed classroom observations of the biology and health teachers virtually every day for eight weeks. The researcher did not resume observations of the English and social studies teachers since they had student teachers during this time period. Classroom observations of the English and social studies teachers resumed after the student teachers were finished teaching. Weekly one hour consultative sessions with the English and social studies teachers occurred for eight weeks and one hour classroom observations occurred four to five times a week for six weeks.

Consultative sessions with the English and social studies teachers were unstructured. The format and content were determined by the teachers. The format was always informal discussion and the content included venting time for

frustration with school-related problems, dealing with particular students, and looking at curriculum and procedures being used. The full amount of time was always used and usually concluded by the bell and not the researcher or participants.

Data Collection

Erickson (1986) stated that "the corpus of materials (field notes, documents, interview transcripts) collected in the field are not data themselves, but resources for data" (p.149). The data are extracted from the documentation through some formal means of analysis. Hutchinson (1988) pointed out that while coding and analyzing data, the researcher looks for patterns. She then compares incident with incident, incident with category, and category with category. An in-depth examination of these properties yields a dense theory that accounts for behavioral variation (Hutchinson, 1988).

The researcher coded field notes, and interview transcripts using the following procedure:

1. Words were examined that described the action in the setting. They had to be substantive and based only on data. Data containing words such as summarizing, setting the scene, and modifying were separated into piles. An illustration of each follows:

(a) summarizing--Tanya began class by reminding the students what they had discussed yesterday. "The last time we were

together we talked about depression." Connie always began each class with a review of the last lesson by questioning students. "Yesterday we were introduced to the Roman citizens and Shakespeare's criticism of what?"

(b) setting the scene--After summarizing, Connie would then set the scene for the lesson that day. "Today we will see Cassius and Brutus. It is the night before the Ides of March as the scene opens." Mike also set the scene at the beginning of each class by letting students know what would be discussed that day. "Today we're going to start out with a conversation about the heart."

(c) modifying--Mike handed out the quiz and several students left to take the test in the LD room. Bob said that he liked to use study guides so the students could follow along and discuss what was on the guide. Tanya took a copy of the information on the overhead to (an LD student) so the student could copy it at her own pace.

2. Categories were then examined and combined according to commonalities of the word codes in #1. For example, summarizing and setting the scene data were functionally grouped together as a new category; effective teaching techniques.

3. Theoretical constructs emerged from the categories formed in #2 that were unexpected. For example, data containing criticisms became a new category; barriers to change.

Several copies of field notes and transcripts were made to facilitate the coding at three levels. Colored highlighters and code abbreviations in margins were used to distinguish category from category and theme from theme. Copies of the field notes were given to the participants to gain their perspective on what was important and not important.

To substantiate information gained from observations, conversations, and interviews, other key informants, i.e., the learning disabilities teacher and principal were also interviewed. These interviews were conducted at the conclusion of the research so that questions could be formulated that sought disconfirming, as well as confirming evidence. The theoretical constructs will be described in Chapter Four.

CHAPTER IV: RESULTS

This study asked the question: What are the effects of an inservice on classroom modifications on the teaching practice of four teachers? A secondary question asked was: To what extent are teachers' behavior and attitudes affected by follow-up consultation? All four teachers participated in the inservice. Two of the four teachers, the English and social studies teachers, received follow-up consultation; the health and biology teachers did not.

The results of the research had both expected and unexpected outcomes. The researcher expected to find that the inservice would have some effect on the four teachers, but that follow-up consultation would have the greatest impact on their behavior and attitudes. This was not the case. The inservice and consultation had some effect on the four teachers, but not to the extent anticipated. Of the two teachers receiving inservice with consultation, only the English teacher made significant changes in behavior and attitudes. Of the two teachers receiving inservice with no consultation, the health teacher made greater changes than the biology teacher. The health teacher, receiving no consultation, made greater changes than the social studies teacher who did receive consultation.

One of the most surprising discoveries of this research study was the drastically different perceptions the four teachers, the learning disabilities (LD) teacher, and the

principal had about the same phenomena. The different perceptions they held placed constraints on the outcomes of the inservice and the consultation. Their perceptions differed on: (a) the roles of classroom teachers and the LD teacher in meeting the needs of LD students; (b) the degree of communication between the classroom teachers and LD teacher; (c) the number of LD students scheduled into particular classes; and (d) the amount of time needed by classroom teachers to implement changes in practice. These differences in perception imposed constraints on the success of changing teacher practice that had not been anticipated by the researcher.

Before an analysis of the research data is given, a brief description of the LD program, the role of the LD teacher, and the relationship of the LD teacher and the researcher will be provided.

The Learning Disabilities (LD) Program

The LD program at Garfield High School used a resource room model. This meant that students attended regular classes throughout the day, as well as receiving classes in the LD room. In most cases students had a majority of classes in the regular classroom, and went to the LD room for one or two hours a day. Students took classes in the LD room to replace regular classes that the LD teacher felt were too difficult, or to work on classroom assignments, much like a structured study hall.

The LD room was located in the high school building, and students came and went as they did in any other class. The LD teacher worked with students throughout the day on an individual or small group basis in the LD classroom. There were two aides in the LD room who also assisted individual students.

The relationship between the researcher and the LD teacher became established as a result of drop-in visits by the researcher. Periodically at the conclusion of a classroom observation or consultation, the researcher would go to the LD room to visit with the LD teacher informally. The researcher asked the LD teacher for her perception of what the four participants were or were not doing as a result of the inservice and consultation. The perceptions of the LD students were also gained from the LD teacher.

Analysis of the Participants Before the Inservice

Data collected during classroom observations before the inservice provided evidence that Connie (the English teacher), Tanya (the health teacher), Mike (the biology teacher), and Bob (the social studies teacher) were all effective teachers. The evidence consistently indicated the desire and motivation of the participants to meet the individual needs of students, and to have all students be successful. The teaching methods and techniques used by all four teachers were excellent examples of effective teaching. Components common to all of them included enthusiasm, creativity, captivation, and the

ability to think fast on their feet. The following vignettes are intended to illustrate these characteristics:

Connie

This English teacher went to unusual lengths to have her students relate to new material. For example, during an English composition assignment, Connie introduced the activity by telling the students, "You are going to be film directors today. I'm the financier so I can make some stipulations. One is that your movie has to be about an American hero. What American heroes have you seen in the movies?" Students responded with several heroes such as Rocky, Indiana Jones, and Rambo. Connie then handed out a worksheet with five writing options listed on it:

1. Write a medieval romance.

2. Select a current day movie or story and show how it fits the seven elements of a medieval romance.

3. Write an essay on what chivalry means to you and what parts of it still exist or don't exist today.

4. Choose an American hero and a hero from one of the stories read in class (for example, King Arthur) and compare the story hero to the modern day hero.

5. Be the writer for your own film and write a movie about an American hero you create.

Connie read through the options aloud relating each option to a selection they had previously read in class. "Remember when we read...?" As she read option one, she reviewed the

characteristics and elements of a medieval romance. For option four she had the students generate American heros that she added to the already existing list on the blackboard. After discussing each of the writing options she told the students, "Your rough drafts are due on Tuesday, October 3. Write it on the bottom of your worksheet now." She repeated the deadline one more time.

Next she had them turn the worksheet over and told them to "Number from 1 to 20. For number one write the option you have chosen. You can change your mind later but for right now put down something. I'm going to force you to think about it. In the rest of the slots fill in the details of your story; like characters, what they look like, where does it take place, what happens, etc. List 20 details of the things you need to include in your paper." There were several comments from students about what they were writing. Connie walked around the room checking on individual students. "I'll give you four more minutes to get these 20 details down before we go on to the next thing." She continued to walk around the room encouraging students to get their details down. She questioned some students and gave examples to others to get them writing. She prompted others with "two done, 18 to go" and "c'mon only 2 minutes left" and lifted up one student's paper to see if it was done.

She continued to walk around the room interacting with all students. "Now you need a clean sheet of paper and a pen or

pencil." Students got these things out quickly and waited for her next directive. "You'll be doing a 10 minute free writing activity about anything that comes into your mind. Don't worry about punctuation, grammar, etc. If you can't think of anything to write then write 'I can't think of anything to write' as many times as you need to until you think of something. Think of the 20 details you just wrote down and try to write as much as you can about those 20 details."

She started them writing and then walked around the room. The students were totally silent and appeared intent on their writing. At the end of the 10 minutes she told them, "You can stop writing if you wish. You can keep going if the ideas are flowing. Some of you had trouble getting started. Don't worry, something will come to you later."

After this particular class Connie explained that writing days were more unstructured on purpose so that the students' ideas could flow freely. She was pleased with how much writing the students had done, and commented on how much easier it will be for them to finish their rough drafts.

Bob

A representative example of Bob's teaching skills and style occurred during the conclusion of a unit on the Middle East. The social studies class had just finished studying the Middle East and had been watching the movie Lawrence of Arabia. At the beginning of the hour Bob asked if any of the students needed a copy of the study guide for the movie. He then went

on to explain why they were watching the movie. "I know this is a Hollywood movie, but it does a nice job of showing what was going on in the Middle East at this time in history."

He reviewed what happened in the segment they watched yesterday by asking students, "Who can tell me ...?" as he read a question off the study guide. Several students raised their hands and answered the question correctly. Bob continued to go over the other questions on the study guide that had been previously covered in the film. He provided some explanation, but for the most part the students did the explaining. He prompted students to answer in more detail with, "And that led to what?"

Bob was animated, smiled a lot, showed enthusiasm in his voice, and walked back and forth across the front of the room. After reviewing, Bob summarized by giving some insights into the story and bringing up some of what he called the "distinct" vocabulary like 'manifest destiny'. He explained the term by telling a story about the American Indian tribes.

He then pulled down the map to show where the film would be taking place that day. He set the scene for the next segment of the film before starting it, and then told them, "You have quite a ways to go before the next question on the study guide so just sit back for now."

Throughout the film Bob interjected with explanations such as "Those are Turkish airplanes" and "That's Faisal. Remember I told you he had 40 wives and over 200 children? He's got

a great future in fatherhood" and "My favorite part is coming up. It's called 'how not to treat your camel'." Students laughed at the part. A short while later Bob stopped the film to explain a prayer segment where a man was reciting from the Koran. The students were very attentive during the film and Bob's interjections.

Later in the movie Bob repeated one of the lines, "The English have a hunger for desolate areas and I fear they hunger for Arabia. We'll see later if that is true." He stopped the film saying, "I have to stop it here so I can explain what is going to be happening at Acaba." He went on to explain using the map at the front of the room, and related the incident at Acaba to a similar situation in WWII.

He started the film again and after a few minutes, "This is a unique scene. Where do you find shade in the desert to rest? That's why they wear those robes. Where did he get the tent? He's wearing it. This next part is the beginning of the answer for number three on your study guide. You won't get it all today but pay attention."

Mike

Another example of effective teaching occurred in Mike's biology class. The subject was "blood." He began the hour with, "We have a couple of things to get through today, so get out your notebooks. Would you also get out the worksheet from yesterday? Listen up. In your notebooks write 'types of blood'. You have a worksheet there that should give you

some of this information but we need to get the rest of it."

He turned on the overhead projector, and asked the students, "What are the three major components of blood? Look at your worksheet." Several students responded, and Mike wrote their answers on the overhead. Then he asked the students what percent of the blood each component was. Students responded, and Mike wrote the answers on the overhead. "Why do people get squeamish when they see blood?" A student responded, and Mike praised his answer, "Right, good. But if you think of blood as mostly water, it really isn't so bad. What is plasma?" Several students responded correctly. "What else is in plasma? Look at your worksheets." Students responded incorrectly so Mike provided the answer repeating it twice, and then writing it on the overhead.

"Let's go to red blood cells. What's the proper name for red blood cells?" Students responded incorrectly so Mike told them saying "Write this down" and he spelled out 'erythrocyte' saying it aloud several times as he wrote it on the overhead. "How long do red blood cells live?" Several students responded correctly. "Where are they made?" Several students responded correctly again. "What else can you tell me about red blood cells?" Students responded with "They're oval shaped" and Mike said, "Good, we'll call it donut shaped."

A student asked, "Can you get AIDS from hospital blood?" Mike explained that you can't anymore since the test to

detect AIDS in donor blood was developed, but that you used to be able to. He then brought up the Brian White story (a young boy with AIDS) which generated discussion among the students who were familiar with the story.

Mike then went on to talk about white blood cells using the same procedure. He used the word 'engulf' and the students asked what it meant. Mike used an analogy between a white blood cell engulfing food, and the Blob engulfing people in the movie The Blob.

There was a great deal of interaction between Mike and his students. Students appeared comfortable responding even though they were incorrect. They also appeared comfortable asking questions, which they did frequently.

Tanya

Tanya also used several effective teaching techniques. During one health class she was at the board illustrating the life achievements of one of the students, Kate, whom Tanya had said she was going to pick on that day. Tanya was very animated, smiled a lot, and appeared extremely enthusiastic about the topic (self-esteem) and the lesson for the day. Students, including Kate, laughed at the fabricated example of Kate's life achievements. Tanya then went on to another drawing on the board of a huge wheel, and pointed out that wheels rolling down a street are like people rolling through life. The students were very attentive as Tanya related a story about a fabricated girl, Clarice, and her many problems.

Clarice's problems were similar to those that students might have. Tanya had the students generate ways Clarice could improve herself. For every idea the students gave, Tanya added a spoke to the wheel on the board. Tanya asked the students what the wheel with all its spokes stood for, and they responded that Clarice would now have an easier time rolling through life.

Tanya praised them and went on saying, "We're going to do something different today and talk about our successes. Steve, tell us one of your successes." Steve responded and Tanya said, "Good, Steve" and repeated what he said to the class. She continued to call on all of the students moving close to each student as she addressed him/her.

Next, she handed out a worksheet explaining what they were to do on it. "Fill in the sheet with your successes." The students groaned, and Tanya reminded them that all they had to do was fill it in to get credit. They would not be graded.

She set the scene for the activity by closing the shades, shutting off the lights, and telling the students to put their heads down, close their eyes, and relax. She talked them into a relaxing state, and then asked them to remember when they were in elementary school, and the successes they had. She continued to take them through all the grades and each success. The students were quiet, and appeared involved in the activity. "OK, write on your paper some of the successes you remembered you had."

As students wrote down their successes, Tanya turned on the overhead which had five questions written out. She explained that they were to analyze their successes by answering each of the five questions. The questions were discussed, and as Tanya got to question five she said, "Question five is the most important." She told them why it was so important, and gave examples on how to answer it by phrasing questions such as, "Were you imaginative, creative, bright? Did you have to work hard?"

She walked around among the students as they worked on the activity, interacting with several students. After she was sure everyone had finished she said, "I'll collect them individually, since they're personal."

She then explained their homework assignment by asking, "How many of you get Time magazine at home?" A few students raised their hands. "What's on the cover?" Several students responded with "people." Tanya brought out a folder with the heading and border of a Time magazine cover, and the picture cut out. She put her face in the opening, and then went around the room putting each of the students' faces in the opening. "Now that you've all been on the cover of Time, you are going to write the article that tells why you're so famous."

She gave examples of what students had written in the past, and answered several questions from students. The students

were laughing as they exchanged possible ideas for their stories.

While all four teachers had their own teaching styles, there were several effective teaching techniques common to them all. None of the four used straight lecture, a method not effective for learning to occur in secondary classes. Interaction between the teachers and their students was continual. Questions were not only frequent, but urged students to think. Bob asked students, "How many of you think we should've dropped the H-bomb on Japan?" Several students raised their hands, and then Bob asked, "The rest of you--someone be brave and tell me why you think we should not have?" These questions generated an intense discussion among the students. While discussing Julius Caesar, Connie asked the students, "How would you go about persuading Brutus to join the conspiracy?" which generated several responses from students.

All four teachers began each class by summarizing what had happened in the previous class, and then went on to explain what they would be doing during that day's class. Presentations were made interesting by relating what was being learned to students' experience or previous knowledge. Mike related a cigarette filter to how kidneys work. During a discussion on the bombing of Hiroshima, Bob asked students, "Can you imagine the American soldiers walking through the city of Hiroshima and seeing the survivors smiling at them? Would you smile at Russian soldiers if they had just nuked

your city?" Describing the various characters in Julius Caesar, Connie referred to Cassius as a "con man" to help students understand his character. Later she made an analogy between the conspirators wanting Brutus to join them and a student with a reputation for skipping wanting a straight A, non-skipping student to be with him the next time he skipped school. Tanya described psychosomatic illness by describing how a hockey player, who had been cut from the team, started getting stress-related headaches.

Besides using effective teaching techniques and methods, all four teachers had already developed procedures to meet the individual needs of students with learning difficulties such as: (a) using study guides; (b) allowing LD students to go to the LD room to take tests; (c) providing more time to complete assignments; (d) providing copies of notes; (e) giving open note tests; and (f) using practice tests.

All four teachers used some form of study guide to structure what was most important in every unit. As Bob explained to his students, "If it's not on these sheets, you're not responsible for it. You won't be tested on anything except what is on this sheet." Bob described how he developed the study guides by picking the information out of the book for which he wanted the students to be responsible. He used phrases right out of the book and page numbers so that students could find the information easily. His test came off

the study guide because as he said, "I don't want the test to be a surprise or to be a trick."

LD students were allowed to go to the LD room for help on tests and difficult assignments. All students were given more time in class to complete assignments and tests. After checking on how many students had completed an assignment, Tanya told them to hand them in, but quietly told one LD student who wasn't finished, "Just keep yours and hand it in when you're done." With the same student on another day, Tanya provided copies of the notes from the overhead so that the student could "copy them at her own pace." Mike's way of dealing with difficult "company tests" was to let students take the test open notes, with a practice test given the day before.

The attitudes of the four teachers were positive about meeting individual needs of students. All four had commented about their concern for a particular student or students in their classes. All had also commented that if students were failing they took it personally, and tried to do something different so that the students could succeed. The principal stated it best when he said:

> A good teacher does a lot of modifying anyway. I don't think good teachers typically even think about it sometimes when they are doing it. That is why I say with the particular staff we have here at Garfield High, I see lots of people making all kinds

> of accommodations without ever being asked to do that. I feel really proud about that, to be able to work with a staff like that.

Despite the fact that the four participants were all effective teachers, and were already implementing some modified procedures without the intervention of the researcher, all volunteered to participate in the study to gain more knowledge and skills in making classroom modifications. That they had the desire and motivation to do so is underscored by their willingness to participate in the study.

Since the researcher had seen plenty of evidence over many months, of quality teaching, and since the participants had a desire to modify practice to aid the LD student, it was expected that the effect of the intervention would be significant. Surprisingly, other issues evolved which would prevent this.

Outcomes of Training and Consultation

As stated previously, there were both expected and unexpected outcomes of the inservice and consultation. Changes in the participants' behavior and attitudes did occur, but in varying degrees among the four participants. The following analysis will describe the changes in the participants' behavior and attitudes and the unexpected outcomes that surfaced.

Changes in Behavior and Attitudes

The researcher at first tried to separate the changes in behaviors from the changes in attitudes. This proved impossible. They are interrelated and inseparable. The attitudes of the participants were depicted through their words and actions.

Connie

Of the four participants, the English teacher made the most significant observable changes. Connie had attended the inservice and had received consultation and these appeared to have a greater impact on her than the other participants. The LD teacher had noticed the most changes in Connie. "Connie has made the most change. On her assignments, tests, and (the students') grades have improved. She's printing (for her students) now, too."

Connie came to every consultation session with materials and questions. During one session she brought all of the curriculum she used for teaching Julius Caesar, including worksheets, tests, study guides, and group activities. She explained how she usually covered the first three acts, and wanted suggestions on how to get the LD students more involved so they would understand the story better. Her attitude was enthusiastic, and she showed a genuine interest in the suggestions for making classroom modifications. Her understanding of the consultant's role was obviously clear,

since she took advantage of the consultant's expertise during every available opportunity.

Connie relied on the consultant a great deal at first for suggestions and support of what she was doing. Toward the end of the consultation sessions, she became more independent as evidenced by fewer requests for input and approval. One of the modifications she made by herself, without any specific suggestions, was on an essay writing assignment. Connie came to the consultation session with the revised writing assignment completed. She had written out a separate direction sheet that was explicit and very structured. She had broken the writing of the essay into the six steps she wanted the students to follow when writing an essay, and further included examples of how each step should be done.

Connie was pleased with the modified assignment, and only asked for input on the final product. She seemed to need positive reinforcement rather than approval. She had already decided to use the assignment. After being praised for the revised sheet she had made to accompany the writing assignment for the LD students, Connie smiled and said, "See, you really have made an impact on me. I have been listening to you. I know what you have been saying." This was the first time Connie had demonstrated any real confidence in her ability to make extensive classroom modifications. Previously she had been apprehensive about doing some of these things. She saw the need to do them and had the desire, but didn't feel she

could do them. During this session she appeared very confident. She felt good about what she was doing, and stated she felt confident enough to continue the process and to even do more revising. She was extremely enthusiastic.

The results of the modified assignment provided good feedback for Connie. "With most of them (the LD students), or a majority of them, it went very well and I was especially pleased with one girl who did a very thorough and real nice job." The LD teacher was also impressed with the assignment. "It was very well done. Out of the five kids who worked on it in here (the LD room), four of them thought it was very helpful. They felt good about their work and thought these would be the best essays they had ever done."

Connie believed that the follow-up consultation was critical to her confidence and independence in making modifications:

> The consultation was the most helpful to me. The reason for that was because of the specific suggestions you gave me on the things I was using on a daily basis. The inservice was good and the manual was helpful, but the ongoing consultation provided the best information and the best support.

Other modifications Connie made included preteaching vocabulary where she provided the definitions she wanted the students to have, and then discussed them before students came upon them in their reading. She also previewed concepts by

writing questions on the board that were discussed before the reading was done. These were changes she made for the entire class.

When Connie was asked what changes she thought she had made as a result of the training and consultation she stated, "I think I am more conscious of the making of worksheets and I am more conscious when I am making out tests....I type them up differently for every student. Not just for the LD students."

Along with making the tests different for all students, Connie also began making modified versions for the LD students. She asked to reschedule one of the consultation sessions because she had so much to do that day. "During this prep time today, not only do I have to get my grades done, but I also need to cross out options on a quiz I'm giving today." At the rescheduled session, she was asked how the LD students had done on the modified quiz. "They did very well. Most of them still went to the LD room though." Her goal was to have the students stay in the room to take the modified test. This did occur toward the end of the research study. "The last modified test I gave, a couple of the students did stay in the room and did fairly well."

The changes that occurred in Connie's behavior and attitudes, as a result of the inservice and consultation, were significant and conformed to that anticipated by the researcher. She had made extensive modifications for

students. Positive changes in attitude about her ability to make classroom modifications were also evident. Bob

Bob (the social studies teacher) also participated in the follow-up consultation. He was not as enthusiastic as Connie about making classroom modifications--nor did he make extensive modifications for students or significant changes in his attitude about classroom modifications. Throughout the research study, Bob displayed ambiguity or ambivalence. It was never clear if he wasn't sure what he was supposed to do or if he just didn't care. This was apparent from the first day of the consultation sessions when he brought no curriculum materials with him--nor did he initially ask any questions about making classroom modifications. He may have been uncertain about the role of the consultant. His expectations of the consultant were twofold: (a) to make the modifications for him; and (b) to be a sounding board for the many frustrations he had with the school system and its policies and procedures. He stated his expectations for the consultant during a discussion on redoing study guides for the social studies unit on Russia. "I thought you were supposed to do that" and said he would give the researcher the study guides to redo.

There was evidence to show that he made changes in his behavior as Connie did, but not to the same extent. The changes he made were more subtle, and not as evident as Connie's. As the LD teacher commented, "Bob, I've seen

nothing, no comments, no changes." Yet, there were some observable changes. As will be seen later, the LD teacher's perception of Bob was due to a lack of communication between herself and Bob.

More so than Connie, the changes Bob made were implemented with the entire class rather than for the individual LD student. For example, while discussing the republics of the USSR, Bob stated, "You're probably wondering how you'll remember these 15 republics when you can't even pronounce them. But you won't have to spell them because I'll have them written on the board for you, mixed up. So it really won't be that difficult." After being praised for his word bank idea, he replied kiddingly, "I'm a professional. I know these things. Of course I'll give them a word bank."

Other changes Bob made for the whole class included preteaching vocabulary, which he did by writing terms on the board and then discussing them. For example, at the beginning of one class he wrote "czar" on the board saying, "This is a word you'll see in the assignment. Does anyone know what it is?" A student responded correctly and Bob explained further. During the same unit on the USSR, Bob drew a diagram on the board to show the climate belts. Writing on the board was something that had not been observed before the inservice and consultation. Previously Bob's lessons had been almost all verbal. On another day he handed out a dittoed map of the

USSR announcing, "I labeled it myself so there would be no confusion. The map in the book is lousy."

During the unit on Japan, Bob was going to have the students read the book Hiroshima, but was concerned about the students who couldn't get through the entire book in three days. After discussing various possibilities, Bob came up with the idea of giving students the option to read a part of the book or the whole book. The book was broken into several separate stories so students could choose to read just one of the stories.

Bob chose to use modified materials with other students besides just the LD students. "I haven't gone purposely out of my way to work directly with them and I treat them like anybody else. If I do something for their benefit it is also for the benefit of the slow learner I have in class. He's not LD, he's just slow. So I don't purposely direct LD activities to LD students. They are just good for several students." Bob was obviously aware that he needed to meet the needs of students on an individual basis.

Another time Bob found he needed to make modifications was when he found his student teacher giving the students "quite a few notes." This was a different technique than what he usually used. To help those students who were struggling to keep up, he ran off copies of the notes so they could follow along and not have to take so many notes. He was concerned

they weren't listening since taking notes was so frustrating for them.

To get him started in making more modifications, the consultant offered to modify the study guides for his next unit on Japan. He willingly shared the study guides he planned to use. The modified study guides were brought to the next session and Bob liked them. "I can see this is a better format for the students to use, but I don't know if I'd have the time to do it." He agreed to try them with the students to see what the effects would be.

Bob pointed out that if he used the modified study guides he would also have to modify the test. He got out his test on Japan and we talked about some of the changes he could make. "I'll try to come up with a test from the study guides and let you look it over to see if it would be a good test." At the next session Bob had not made a modified test but gave the consultant a copy of the test to take home and look at and "maybe make some modifications on it." He seemed to expect that the consultant should make the modifications. At the same session, Bob said he had handed out the modified study guides, made by the consultant, to some of the students and described his procedure and the students' reactions:

> They seemed pretty fired up about it and started working on them right away. The way I decided to handle it was to give them both the modified study guide and the study guide that the other students

> were getting and I'll grade the modified one as the required one for these kids. The study guide the rest of the class is doing is extra credit and I told them that if they did the modified one they should be able to transfer the information they get there onto the other one quite easily. The kids seemed pretty excited about doing that and intended to do both study guides and get the extra credit.

Whether consciously or unconsciously, Bob had implemented one of the techniques described at the inservice and during the consultation sessions.

After the unit on Japan, Bob was asked if he would modify the study guides and test for his next unit on the USSR. "Yes, I think I will. I can see that the modified ones are a much better format for the EMH (Educable Mentally Handicapped) and LD kids, as well as some of the other kids that aren't in programs that have more trouble in class."

Later during that same session when Bob commented on having so much free time with a student teacher and not knowing what to do, he was told in a jovial manner that he should be redoing all of the study guides for the next unit. He stated that the consultant was supposed to do that and said he would give her the study guides on the USSR. He never did, though--nor did he modify them himself.

Whatever the reason, what Bob said he was going to do was seldom what he actually did. For example, he said he would

modify study guides and tests, and then would not modify them. He also contradicted himself when he said he had a great deal of time with nothing to do at one point, and that he didn't know when he would find the time to modify study guides and tests at another point. Bob appeared to provide lip service rather than actual delivery.

Bob was asked if he intended to make classroom modifications in the future:

> Sure. I'm going to rewrite the study guides. I might have them available to everybody rather than just the LD. I've got the time right now to redo my curriculum because I have been teaching the same thing now for a couple of years.

Bob stated he would modify his curriculum and appeared to see the need to do so:

> You have to whether you have LD students or not because you have 30 students of different abilities. Some are A students and some are D students. You don't want F students so you have to make changes. I am now aware of changes I should make. Maybe I did it before without thinking about it but I do now. Here is a kid that is definitely lost. What should I do with him to bring him around? I do it more consciously.

Yet, there was never any evidence that he went beyond the modifications described previously. What he said and what he did in practice were not the same.

Bob did appear to enjoy the consultation sessions. "I think jam sessions are a really valuable thing, especially if you've got several people and you can listen to what they are doing. The sessions were always something I looked forward to." He commented that what he had learned from "this whole thing that we had done together," was to be more aware of all these things about modifying and seeing that there are things that he should be doing even though he knew he hadn't been doing them.

Bob had several frustrations about teaching in general and found the time we spent in consultation was a good time to vent some of his frustration. "This has been therapy for me. Every Tuesday I get to vent my frustration and it really doesn't have anything to do with modifying curriculum for LD students but I sure feel a lot better afterwards." Bob knew what needed to be done, what worked best, what the kids needed, and what was going to be difficult for them, but didn't take the time, didn't feel comfortable making modifications, or maybe didn't even like doing them. The reason was never clear. One thing that was apparent was that the frustrations Bob had with administrative and special education procedures became obstacles that prevented him from engaging in any extensive classroom modifications.

Tanya

Of the two teachers who did not participate in the ongoing consultation, Tanya (the health teacher) made the most observable changes in her behavior. The LD teacher commented, "Tanya is printing and bringing her assignments in and asking for help and (asking) if her assignments and tests are okay. She's more aware." Tanya sought the support and feedback from the LD teacher that Connie and Bob received from the researcher. This interaction was facilitated by the fact that Tanya's room was across the hall from the LD room.

Tanya had told the LD teacher that she was very concerned about the tests she was giving because they were mostly true and false. "Lynne's going to kill me when she sees this test because it is all true and false." She stated that she should really rewrite it, but didn't know if she would have enough time.

On that particular test day when the researcher walked into her room, Tanya laughed in a nervous way, and said she was very embarrassed because she was giving a test that day and had not modified it. She said she felt guilty.

The LD teacher commented on a conversation she had with Tanya after an observation by the researcher. Tanya had been embarrassed at "being caught" using an unmodified test. Yet, the LD teacher commented that Tanya was very excited about making a lot of changes and as soon as she could find some

time to do them, she was going to start working on modifying a lot of the curriculum that she was using.

Tanya was enthusiastic about making modifications after the inservice. "I'm anxious to show you all the things I'm doing since our inservice." She pointed to the board to show she was now printing rather than writing in cursive. "You had lots of good effects on me. I've been trying to use different modes, different ways of learning, not just one style. I've been trying to make changes with things I put on the board and in my explanations."

One of the effects observed was Tanya's increased monitoring and assistance with LD students. When asked if her interaction with the LD students had changed she said, "Yes, I am more concerned that their needs are being met. I am more conscious of it." One of the LD students asked her for help saying, "I didn't get how to do this." Tanya told her to clear off her desk to get organized and then helped her with her assignment. Later the student brought her worksheet to Tanya's desk and said she was done. Tanya asked her if she had any trouble and the student said, "no." Tanya noticed one part was not done so she took the sheet over to the student's desk and showed her where to find the answer in the book, watching her until she was done. On another day, Tanya sat beside the same student during the viewing of a video to help her with an accompanying worksheet.

Increased interaction with the LD students and printing on the board and overhead were two of the observable changes. Tanya commented on other changes she had made such as providing copies of overhead notes for students more frequently than she had before. "I have been doing it. In fact, I have been doing it with most of those kids who have difficulty and even the kids who have problems seeing things on the board." The LD teacher observed several modifications with daily assignments and tests that Tanya had made. Tanya had brought the modified materials to the LD teacher for her input on their workability with the LD students.

Tanya did regress at one point and started writing in cursive again. The first day this occurred Tanya commented, "Oh no, I forgot to print it," as the researcher walked into the classroom. When questioned about not printing she said, "You know I had so many board questions that day and it is so much faster. Then I realized I did it again. It is just a normal habit. Hard to break, but I will get back to it."

Tanya expressed a need for consultation and hands-on experience. "I liked having the written manual....I only absorb so much and I have to go back. I really feel it is so important to have hands-on material and somebody to talk to.... I stopped printing on the board because I forgot. Talking to you about what I was doing and what you observed could've made a difference."

Tanya felt it was necessary to make modifications for LD students. "Their needs are so much different than the regular students that it's pretty much hopeless for them to sit in your classroom and get any benefit unless you make some modifications." Tanya also said she intended to make modifications in the future. "I am so inspired. Should I stand on the desk and tell you? Yes, I really feel it is a necessity. Most specifically my test writing because that is how we evaluate so much of what our students do." The researcher continued to make classroom observations in Tanya's classroom, but did not provide her with consultation as she had done with Bob. The fact that Tanya made more extensive modifications than Bob was significant and not an anticipated outcome. It was expected that she would make fewer modifications than Bob. She seemed to satisfy the need she had for consultative support and feedback by going to the LD classroom and seeking input from the LD teacher.

Mike

Mike (the biology teacher who had no consultation) made the fewest changes in behavior of the four participants. The LD teacher said of Mike, "He's aware and says 'yes' to all of the ideas but doesn't do anything. I've told him, 'Mike, you need to start modifying these tests' and Mike's response is 'I know, I know, I will get at it,' but he hasn't done anything yet." The researcher also found the same

procrastination, except Mike admitted he was not making any changes and gave reasons to her for not doing so.

Mike saw the need to make changes, but could not find the time to make them. Of the four teachers, he was the only one who commuted between two schools. He had a full teaching load and taught basic biology classes at the alternative school in the morning and basic biology classes at Garfield High School in the afternoon. His preparation time was often spent commuting. Mike stated that the way he liked to make changes, especially in curriculum, was to do it all in one chunk of time. His way of dealing with the need to modify his curriculum was to apply for a grant for a summer project in which he and other teachers could rewrite curriculum.

Even though he did not intend to make classroom modifications immediately, Mike did exhibit enthusiasm for doing so eventually:

> I got real excited about the modification stuff and realized that even if I was using a lot of effective instruction, I still wasn't meeting the needs of all the kids. I'm using a lot of materials that aren't appropriate for these kids. My prep time gets used up in travel and preparation for the class so in terms of actually changing my content my intent is to do it in a curriculum project for next year, so I'm approaching it a little differently. But the thing I am doing, since you have started here, is

> that everywhere I go I am looking, and everything I do I am looking at, and kind of logging them in my memory bank. So okay here is an area I need to change so there is a significant need everywhere I go. To date no one has convinced me of anything that works except your program, and I have looked at a lot of them. The difference with my situation and someone else's is I'm looking at low academic kids throughout (basic biology classes) so how much modification do I do within the context of that? Well, I need to do some, I know, but my intent is to do a substantial amount, but I haven't been able to facilitate it at this point. It isn't that high a priority to do it now.

When I first questioned Mike about what he felt would be most helpful for him to make changes he said, "I like inservice and feel it is the most helpful." As I questioned him further, I found that his definition of "helpful inservice" was an inservice session followed by ongoing consultation:

> If someone wants to incorporate change in my classroom, I think they have got to give me the time to number one: convince me that what they are doing is right and number two: facilitate the process with me. Don't just give it to me and walk away.

Whether consciously or unconsciously, Mike did make some changes. He progressed from commercially prepared tests to his own personally designed tests:

> They did much better on this last test than they did on any of the tests previously this year. I think the reason is because it was a test I made out myself. It wasn't modified by any means but I feel it was a better test than the book tests I've been giving.

Mike had been printing before the inservice, but his printing became larger and more legible. There was also increased interaction with the LD students. One day Mike went over to an LD student and asked him about getting his work done. "Vocabulary done tomorrow before the test, right?" The student nodded 'yes'. Mike then walked over to another LD student and asked if he had his chart copied in his notes. The student said, "You bet" and showed Mike he had it done. Mike then asked him if he had the second half of the vocabulary done and the student said, "Yes, I'm on the money, on top of things." Mike patted him on the back and said, "Good job."

More so than the others, Mike's need for time and ongoing support interfered with his making changes during the school year. He saw the need to make changes, and stated he intended to do so, but will not make significant changes until he has the time and ability to concentrate on making them. His

position seemed to be that he would be more comfortable making changes in one block of time with someone who has the expertise to assist him, and when he is not involved in something else--like teaching. That is why his intent is to make major changes in his curriculum in a summer project.

Teacher Concerns

There were unexpected issues that emerged. Some of these were related to the research study and some were unrelated. These issues were of varying importance to the participants, and in two cases became obstacles to significant changes in their practice.

One issue that was of concern to each was the lack of time to implement changes. Even though Connie was making extensive modifications, she was very frustrated with the amount of time it took to make what she felt were minor modifications. No matter how much modifying she did, she was never satisfied that it was enough. She felt overwhelmed with knowing that she needed to be doing so much but that she didn't have the time to do it. "It would be so helpful to have an aide, even to do the typing. I need more time to do all the things I want to do."

Tanya agreed with Connie, and felt that the time to do modifications would be aided by clerical assistance. She pointed out that they had no assistance with typing or duplicating.

Bob felt that actual release time would be helpful:

> If the district thought it was really important, they would give me the release time. The LD department and anyone else with any clout should say we need release time to do this. I don't know if it is my responsibility to obtain that time, but then I have to be willing to use it, too. It has to be a cooperative thing.

Mike also felt time was a factor, but he wanted to have the extra time during the summer and not during the school year. This may have been because he was so busy at the current time.

In contrast, the principal felt that inservice time once or twice a year should be sufficient:

> We have inservice time that is allowed in the district calendar to devise programs....I have an inservice committee that I work with and what we do is survey the staff every year and find out what kinds of things they might be interested in....I think at the point in time when our faculty said we would really like to know more about this or if the special education staff came up and said we really need to have some time for this, that is what we would do....This includes two half days per year. That is not a lot but it is an effort to make it that way....Our special education teachers have also

run inservice during the seventh hour and after school for teachers who are interested in coming in to do some time on a voluntary basis.

What the principal was willing to offer, as far as time for making modifications, did not meet the perceived needs of the four teachers. It may be possible that no one had approached the principal about the need for extra time, or with exploring some options for providing more time. His offer of two half days a year was nowhere near what the teachers felt they needed. His other option of providing time during the seventh hour or after school, on a voluntary basis, did not address the problem of those teachers who would not voluntarily attend such sessions.

While time was a concern to all four teachers, three other concerns emerged that affected each to some degree: (a) poor student teachers; (b) the number of LD students placed in particular teachers' classes; and (c) the working relationship between classroom teachers and the LD teacher.

The issue that was of concern to both Connie and Bob was their current student teachers. During several consultation sessions, more time was spent talking about student teachers than modifications. Their current student teachers appeared to be uppermost in their minds. They had the need to discuss this first before getting into issues about making modifications. After the student teachers had completed their training, there was no more discussion about them.

Connie and Bob both expressed frustration with the lack of skills their student teachers possessed. Both felt they had had poor student teachers currently, but also expressed concern with the quality of student teachers in general. They felt student teachers were ill-equipped to deal with classroom situations such as discipline, management, taking roll, dealing with tardies, grading, and what they called "survival type skills." They both felt there was a real need for the University to give prospective teachers preparation in those areas.

Along a similar vein, time was spent talking about the preservice training of secondary teachers. Bob suggested that some of the skills lacking would be best addressed by secondary teachers in the field. He said he was willing to come to the University to provide the needed training. Whatever the reason, both Connie and Bob had noticed a decline in the skill and competence level of student teachers. They were both anxious to get "rid of" their student teachers and get their classes back. Their plan for dealing with student teachers in the future was to decline having any. Both felt they needed "a break from student teachers."

Another concern was the large number of LD students in particular classes. All of the participants felt that LD students were placed in only certain classes, and realized that they, as teachers, received large numbers of these students in their own classes. Bob seemed the most frustrated

with this situation. He seemed frustrated with trying to meet the needs of so many different students. He expressed frustration with never getting any "perks" for having to work with students with learning problems. "Those teachers who don't have to work with these kids and only deal with honors classes, get all the rewards."

Bob's perception was that there were some teachers whose classes were avoided when it came to scheduling the kids with learning problems:

> I think the kinds of things we do should have to be the kinds of things all teachers should be required to do. If we're paid on the same contract, then we should have to do the same job. I don't know if it's an honor or dishonor to be working well with kids that have problems....Many times, let's face it, it's a lot easier to teach if you don't have those kinds of kids. So....if you're obstinate and avoid working with them they don't assign those students to you. So really by being a turkey you wind up having an easier job than those who help out.

Mike agreed with Bob that some teachers were never given kids with problems in their classes. "Those teachers don't get those kids because they don't work with them. They don't do anything different for them. Those kids fail in their classes so they don't put them there." He looked at it as a

fact of life and agreed that LD students should not be put in those classes. He did not appear frustrated with the large numbers of LD students in his classes. Mike and Bob both taught all required classes, therefore they never received "a break" from having students with learning problems.

While Tanya felt that some teachers should not get students with learning problems in their classes because they don't teach them well, she also felt it wasn't fair. She felt these teachers were actually being rewarded for being poor teachers. Connie knew she had a lot of LD students placed in her classes, but it didn't bother her. She also taught honors classes during the day so received a break from teaching "harder to teach" kids.

When asked how the LD students were scheduled into classes, the principal stated that the scheduling is left up to the LD teacher. "As far as which teachers are selected, that is up to (the LD teacher) pretty much. She gets to know the teachers as she works with them that work best with the LD kids." After being asked if some teachers received a majority of LD kids in their classes, the principal felt they tried to stay away from doing that:

> We have more teachers in this building that work well with all kinds of kids than any building I've ever worked in....when it comes to lining up kids and teachers with this process it's easy because there are several teachers, typically in any

subject....so it isn't just one teacher getting them all. Sometimes it appears that way, because some teachers, if they teach a certain kind of course, like social studies with Bob. He is the only teacher for that class and it is a required course so he is going to get them all. What we try to do there is spread them out over the day so they don't always end up in the same section. But by the nature of the courses that the kids are taking, sometimes we get a cluster of kids in one hour. From that standpoint it is a little more difficult for the teacher.

The principal's perception of how scheduling occurred was different from those of the teachers. He felt that most teachers had LD students scheduled in their classes, whereas the teachers felt it was a small minority of teachers that had LD students scheduled in their classes. The principal's reason for a large number of LD students in one particular class was the type of class and the fact that it was required for all students. The teachers felt they had a large number of LD students in one class because they worked well with those students.

The LD teacher generally confirmed peoples' perceptions:

Interviewer: Who sets up the students' schedules?

LD Teacher: I do. The principal supports my decisions, but encourages me to spread them around so I try to give each

teacher at least one. I match the student to the teacher's style. Like if the student has poor auditory skills I wouldn't put him in a class with a teacher who talks fast.

Interviewer: Do the teachers complain that they get too many LD students in their classes?

LD Teacher: Yes, the principal said we'll try and spread them around. But there are some teachers who work really well with LD students so I tend to choose those teachers whenever I can.

Interviewer: Are any teachers totally avoided?

LD Teacher: Yes, kids fail all the time in their rooms and their classes are too overwhelming for the students.

Evidence did support the concern of several LD students being placed in particular classes while none were placed in other teachers' classes. The reasoning for doing so was also perceived correctly. Bob knew he had more LD students because he worked well with those kids and they did well in his class. Some of his frustration may have been with teaching all required classes and no electives where he could avoid large numbers of LD students. It would seem that better communication between the teachers, the LD teacher, and the administration may be needed to resolve some of the concerns the teachers had about scheduling.

The other issue of great concern was the working relationship between classroom teachers and the LD department.

Bob worried about three problems: (a) insufficient information from the LD department about the LD kids in his classes; (b) LD students becoming too dependent on the LD room and getting more help than what they needed; and (c) a lack of communication between the LD department and classroom teachers.

Bob complained that he did not know the specific learning disabilities of the LD students in his classes. Bob knew if he had eight LD kids in his room they would not all have the same disability. He was concerned that this information was withheld from him and felt it was crucial to meeting the individual needs of the LD students.

The only form of communication classroom teachers received from the LD department about the LD students was a single sheet of paper, which listed the students' names who were in the LD program and would be in that particular teacher's classes. Bob felt it was crucial that he be given more information than that:

> How helpful it would be to know which kid had a reading disability, which had a written expression disability, which one could not take notes, and which ones could not read the textbook. I'm offended that this information is withheld from me.

Bob had been told that additional information, other than a list of students' names, was confidential. But he objected: "I am an adult. I know it is confidential and I'm not going

to sit down at the lounge and talk about so and so. There are people in this building.... who feel (that confidentiality) is a real problem."

Bob felt that if he knew more about their disability he could better meet their needs:

> It seems like I am supposed to be treating them for an illness and I don't know what is making them sick. If a student has a problem visualizing letters in the proper sequence I should know that. LD means a whole gambit of things, not one disability and I think it is a little much to expect me to pick out what the disability is.

It also bothered Bob that LD students went to the LD room to take their tests and came back with A's all the time. Sometimes all of the students would come back with the same answers and even the same words spelled wrong. Bob wondered if they were taking the test as a group and was not happy with the situation. His concern was for the non-LD student who "worked his butt off and stayed in the room to take the test and only gets a C or a D." He didn't think it was fair that the LD students could leave the room and get A's. His perception of what occurred in the LD room was that answers were readily provided and exchanged and shared among students.

Another concern was the lack of communication between classroom teachers and the LD department. Bob rarely, if ever, talked to the LD department about his students and

claimed he never had the chance to do so. He felt this was a real disadvantage to him as a teacher. "I guess I could make it a point to see them. I am not sure how much concern is being shown by our lack of communication." Bob suggested "a half hour every couple of weeks could be set aside to sit down and discuss students." His perception, though, was that this communication should be initiated by the LD teacher. This was additional evidence of either his ambiguity or ambivalence about the procedures followed with LD students. He did not have a clear understanding of the role of the LD teacher and his role as a classroom teacher in working with LD students.

Connie's perception of the LD department was different from Bob's. She worried with Bob, about students going to the LD room and getting help to take tests; she would rather they stayed in her room. She did, however, see the need for some students to do so. The communication between the LD department and Connie seemed more frequent than it was between Bob and the LD department. However, Connie initiated most of the communication. She appeared to feel comfortable doing so and saw it as her responsibility.

The LD teacher was much less concerned about the issue:

> At the beginning of the year I give all the teachers a list of students they'll have in their classes. (She showed the interviewer the form which contained a list of students in a particular teacher's class). Later

there is an open house in the LD room to give teachers more information. If they don't attend the open house then I go to their room to give them the information. Not all of the teachers come to the open house.

Interviewer: Do you feel there is sufficient communication between the LD department and the classroom teachers?

LD Teacher: Yes, it's pretty good but not enough time to do it. I tried at the beginning of the year to go around and talk to all teachers but time became a problem. I've been told by the administrators to organize my time so that I can consult more but I can't find the time to do it.

The principal's perception of the communication between the LD teacher and classroom teachers supported Bob's perception:

Anytime you are a special education teacher I think you have to realize that you can't just work with the kids down in your own environment. It's not good for the kids to be seen that way, just in that environment. You have to get out and see what the kid's environment is and see what the classroom environment is. The hard part is, obviously, trying to find the time to do that. It is just time management is what it boils down to. Devising ways

to work with the kids, yet finding time to get out there and work with the teachers.

Both the LD teacher and principal alluded to the fact that the communication between the LD department and classroom teachers could be better. However, there was a huge difference between their perception of the reason for the lack of communication. The LD teacher saw the problem as an issue of time scarcity with not enough hours in the day. In contrast, the principal felt it was a time management problem and could be resolved by prioritizing duties and using the time given more efficiently.

Connie, Mike, and Tanya felt the communication was sufficient. However, since these three teachers were initiating the communication most of the time, that would explain why their perceptions were different from Bob's, who never initiated communication. This would also explain why the LD teacher made comments about things done or said by Connie, Mike, and Tanya, but never saw or heard from Bob.

Conclusion

The original hypothesis that changes in behavior and attitudes of classroom teachers, in making classroom modifications, would occur as a result of inservice and consultation was for the most part not substantiated. Only one of the four participants made significant changes in behavior and attitudes.

The hypothesis that evolved was that there were existing constraints (e.g., lack of time, lack of communication, large numbers of LD students in certain classes) that interfered with changing teacher practice. The lack of communication among the LD teacher, the classroom teachers, and the principal, and the way roles were defined by each, affected teacher practice which in turn affected student learning.

From previous experience with similar situations, the researcher knew that two conditions were necessary before teachers could be successfully trained to make classroom modifications: (a) administrative support and involvement; and (b) good communication between the LD department and regular classroom teachers. She mistakenly assumed that these components were already in place at Garfield High School. The research plan was designed to observe the effects of short-term training with and without consultation, on four teachers. If administrative support and interdepartmental rapport had been present, the outcomes of the training most likely would have been different.

CHAPTER V: SUMMARY, DISCUSSION, RECOMMENDATIONS, AND IMPLICATIONS

Summary

This study was designed to examine the effects of inservice training and follow-up consultation on making classroom modifications for learning disabled adolescents, on the behavior and attitudes of regular classroom teachers. In some ways the present research can be viewed as an analysis of the way four teachers responded to a change experience. It was hypothesized that provided with training and ongoing consultation, regular classroom teachers would make significant classroom modifications for learning disabled students.

The procedure used was a form of naturalistic inquiry, specifically participant observation. The participants were four regular classroom teachers representing four curricula areas (English, social studies, health, and biology) in a senior high school setting. All four teachers participated in the inservice training provided by the researcher. The English and social studies teachers participated in follow-up consultation sessions with the researcher after the inservice, while the biology and health teachers did not. Data were collected from:

(a) field notes of classroom observations made in the classes of the four teachers before and after the inservice,

(b) informal conversations with the four teachers and the LD teacher, and

(c) formal interviews with the four teachers, the learning disabilities teacher, and the building principal.

The results of the research included both expected and unexpected outcomes. The inservice and consultation had varied effects on the four teachers, but did not influence their practice to the extent anticipated by the researcher. Of the two teachers receiving inservice training with follow-up consultation, only the English teacher made significant changes in behavior and attitudes. Of the two teachers receiving inservice training without consultation, the health teacher made greater changes than the biology teacher. The health teacher, receiving no consultation, made greater changes than the social studies teacher who received consultation.

Data collected prior to the inservice training revealed the excellent teaching skills of the four teachers. All four teachers used various methods of presentation and continually interacted with their students. Questioning and discussion occurred on a regular basis. Every class began with a summation of the previous class and an overview of what would be expected of students that day. Evidence based on observation consistently indicated a desire on the part of the four teachers to meet the individual needs of every student and to insure that he/she be successful. Not only did all

four teachers use effective teaching techniques and methods, but they had also developed procedures for satisfying every learning style.

Due to the effective teaching skills and willingness of the four teachers to meet individual needs, the researcher expected that significant classroom modifications would be made as a result of the inservice and subsequent consultation. This was not the case. Issues of great concern to the participants, not known to all, that were not expected by the researcher, operated to minimize significant changes occurring in all four teachers. One issue that was of concern to each was the lack of time to implement changes. Other issues that affected each to some degree were poor student teachers, large numbers of LD students in certain classes, and the lack of communication between the LD department and regular classroom teachers.

One of the unexpected outcomes of the research study was the different perceptions among the four teachers, the learning disabilities teacher, and the principal about the same phenomena. The different perceptions held had a significant impact on the expected outcomes of the inservice and consultation. Their perceptions differed on: (a) the roles of classroom teachers and the learning disabilities teacher in meeting the needs of learning disabled students; (b) the degree of communication between the classroom teachers and the learning disabilities department; (c) the methods used

for scheduling learning disabled students into regular classes; and (d) the amount of time needed by classroom teachers to implement changes in practice. These differences in perception imposed constraints on the degree to which the four teachers made classroom modifications.

Differences in perception naturally resulted in different attitudes toward such things as: (a) the amount of time to implement changes; (b) the number of learning disabled students placed in particular teachers' classes; (c) the working relationship between the classroom teachers and the learning disabilities teacher; and (d) the skill level of student teachers. It became evident, that left unresolved, these concerns would continue to interfere with the teachers' motivation to change their practice.

Related Outcomes

As a consequence of the research study, three steps were taken that directly dealt with the practice of mainstreaming LD students. The first step was an inservice for the school district's fifteen learning disabilities teachers in grades K-12 conducted by the researcher at the conclusion of the research study. The topic of the inservice was "Making Classroom Modifications". The focus was on: (a) the kinds of modifications that could be made; (b) how to motivate classroom teachers to make changes; and (c) how to improve communication between the learning disabilities and regular classroom teachers.

The second outcome was that the learning disabilities teacher wrote a proposal to the district to restructure the learning disabilities program. This plan calls for moving the learning disabilities program from a resource room model to a consultative model. In a consultative model, learning disabled students with mild or moderate disabilities, are mainstreamed full-time. This plan would release the learning disabilities teacher to spend more time during the school day to consult with classroom teachers, and to be in the regular classroom to a greater extent.

The third outcome was a grant proposal to the state department of special education written by the biology teacher (Mike). As stated in Chapter IV, time constraints prevented this commuting teacher from modifying his curriculum during the school year. His proposal describes a summer curriculum project in which he and three other teachers will work on making classroom modifications with their existing curriculum. The researcher was asked to lead the project, which would involve providing the necessary assistance and expertise in modifying the curriculum of the teachers' subject areas.

Discussion

In both this study and from the researcher's previous experience, there were certain factors that prevented changes in teacher practice. Before teachers can be expected to make changes they need the desire to change, but the desire to change is not enough in itself. If there are existing

barriers or constraints, the change will not be extensive or significant. The teacher will not be able to "give it his/her all" if he/she is concerned about related issues. Existing barriers and constraints will have to be unearthed, discussed, and resolved.

Two factors that seem critical to promoting a teacher making classroom modifications are strong administrative support and understanding, and productive, ongoing communication between regular educators and special educators. In order for any program change to take place successfully in a school setting, the administration has to be supportive of that change. There must be open communication between the administration and the staff. This will help to alleviate or prevent constraints. The administration must be willing to support the program change by providing necessary time and supportive personnel to assist in implementing the change. They must also be willing to enforce program changes with some of the more reluctant staff when those changes are necessary to the success of students.

The second factor critical to promoting the implementation of classroom modifications is open and ongoing communication between regular and special educators. The lack of communication between some of the participants of the study and the learning disabilities teacher is not atypical in education. There has always been, and continues to be, a gap between regular and special education. In the case of

mainstreamed LD students, this gap must be bridged in order for these students to be successful. If classroom modifications are going to occur, communication and a productive working relationship between regular and special educators is essential.

The four teachers who participated in this study were highly able teachers. They were considered to be some of the best teachers in the school by both the learning disabilities teacher and the principal. Since they were exceptional teachers to begin with, the results were different than they would have been with four teachers who were not as able. A different structure may be necessary for less able teachers who are reluctant to change their practice or unwilling to work with learning disabled students.

Recommendations

The concerns of the participants in the study had significant impact on their ability to make changes successfully in their practice. Accordingly, it would be in the school's best interest to try to deal with these issues. If the LD teacher's proposal for the LD program to become a consultative model is to be successful, the issues that were of concern to the participants in the research study will have to be identified and resolved. As they interfered with the participants' inclination to make classroom modifications, so might they also interfere with the LD teacher's attempt to

change the focus of the LD program and, as a consequence, the role of the classroom teacher.

An improvement in the school's climate is needed. The current prevailing conditions (e.g., lack of communication) affecting the activities of school personnel are not conducive to good working relationships. Alleviating the issues of concern and making provisions for them not to occur in the future will help to improve the unhealthy climate. The following recommendations may be helpful in addressing the issues of concern:

1. Communication between the regular classroom teachers and the LD department must be improved. A structured, formal communication system will have to be implemented to encourage effective communication between both staffs. Systematic, ongoing, and productive communication will lead to cooperation between regular and special education staff in meeting the needs of LD students, which will lead to improved collegiality between regular and special education teachers.

2. The communication between the administration and the staff must be improved. Discussion should occur about the need for time to implement program change, and the concern about the disproportionate number of LD students in certain classes. If the administration is made aware of the needs of the teachers, they may have suggestions for ways of meeting those needs. Communication must be open and ongoing.

3. Once communication has improved and the needs of teachers have been met, ongoing support will have to be provided to the classroom teachers. The researcher's previous experience has shown that most classroom teachers require ongoing consultation in order to continue making classroom modifications. As was shown with Connie and Tanya, the ongoing feedback and support of a consultant (the researcher and the LD teacher) was crucial to their making classroom modifications. The LD teacher should be able to fill this role, but will also need the time and administrative support to do so.

Implications

It was previously established that the working relationship between the regular and special education staffs was inadequate. The blame for this must be shared by the classroom teachers, the LD teacher, the preservice secondary education program, and the preservice learning disabilities education program.

1. Teacher education. Secondary teacher education must address the issue of providing potential teachers with the skills necessary to meet the needs of LD students. The reality is that student teachers will be expected to teach LD students in a student teaching experience, as well as on the job. University secondary education programs will have to develop a course of study that includes: (a) dealing with what a learning disability is, (b) making modifications for

LD students in the classroom, and (c) working collaboratively with special education staff.

Education programs in the field of learning disabilities must address the issues of effective communication, consultation, and collaboration with classroom teachers. Potential LD teachers must be trained to set up formal communication systems with classroom teachers, and to provide supportive and helpful consultation to assist classroom teachers dealing with mainstreamed LD students. They must also learn how to effectively collaborate with regular classroom teachers when planning and implementing programs for learning disabled students in the mainstream.

A related issue is the large number of LD students student teachers may encounter in a student teaching experience. Until the University incorporates a "how to deal with LD students in the classroom" component in their education program, cooperating teachers and LD teachers will have to be responsible for addressing the issue with student teachers. LD teachers and classroom teachers will have to share what experience and expertise they may have with teaching LD students.

2. <u>The need to address related factors acting as constraints before trying to change teacher practice.</u> The research on changing teacher practice addresses the need for positive attitudes and the desire to change, as well as the need for ongoing consultation and support as follow-up to

training. What the research does not address is the need to establish a positive school climate in which to make change. This can only be done by looking for issues of concern and then trying to alleviate them. If classroom teachers are going to make classroom modifications for LD students, there must be an atmosphere of collegiality among administration, regular educators, and special educators.

As long as the "gap" between special and regular education continues to exist, it will act as a barrier to any change in practice that deals with special education students. Research needs to address the political climate between special and regular education that has resulted from years of resentment.

Initially special education told regular education they were not trained to deal with special education students, and removed these students from regular education classes. Now, years later, special education is trying to place these same students back in regular education. Regular educators have been resentful that they were not "special" enough in the first place to deal with these students. Now they are expected to deal with special education students in their classes when they have had little or no training to do so. Research should focus on the history of "why" the gap and resentment between special and regular education exists, as well as how that gap could be closed.

3. The need for training followed by ongoing consultation.

Secondary classroom teachers are often not trained to meet the various learning styles of LD students. School districts must provide the necessary training for classroom teachers to acquire skills for meeting individual needs of LD students through the adaptation of curriculum.

Training programs for making classroom modifications will have to include a follow-up component if teachers are expected to continue to make changes in their curriculum for LD students. Consultation offers a productive vehicle for facilitating teacher accomodations of the learning disabled student, provided that existing constraints are also being addressed. In regard to follow-up consultation Mike stated:

> It (inservice) cannot be a one time shot. The reason for that is this. We are constantly in situations where experts come and talk to us about how. The problem is we are seldom put in a position where the experts will come in, allow us to buy into their intent, and then turn around and facilitate what their intent is. Madelyn Hunter comes in and talks to us about what we should do and we buy into it, and we incorporate some of those theories of philosophy. She gives us lots of examples and then she gets on a plane and flies away. I believe teachers are very resistant to change, particularly

in this day and age because we've been taking so much heat from so many venues for so long that anything that comes down the pipe is perceived as being something new and different and probably will only last a short period of time. If someone wants to incorporate change in my classroom I think they have got to give me the time to number one, convince me that what they are doing is right, and number two, facilitate the process with me. Don't just give it to me and walk away.

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