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# An In-Service Program for Secondary Teachers to Increase Understanding of the Learning Disabled Student's Response to Learning Styles

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EDUCATIONAL TECHNOLOGY CENTER  
CENTRAL WASHINGTON UNIVERSITY

AN IN-SERVICE PROGRAM FOR SECONDARY TEACHERS TO  
INCREASE UNDERSTANDING OF THE LEARNING  
DISABLED STUDENT'S RESPONSE TO  
LEARNING STYLES

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A Project Report  
Presented to  
The Graduate Faculty  
Central Washington University

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Education

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by  
Marsha Nystrom  
October, 1982

AN IN-SERVICE PROGRAM FOR SECONDARY TEACHERS TO  
INCREASE UNDERSTANDING OF THE LEARNING  
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by

Marsha Nystrom

October, 1982

An in-service program for secondary teachers to increase understanding of the learning disabled student's response to learning style was developed. The in-service was organized into five 2 hour weekly sessions. The program format includes a participant agenda, and a presenter's guide with objectives and instructions for each instructional activity. Characteristics of the learning disabled student, the Dunn and Dunn applied model of student learning style, and two learning style materials development sessions were included in the in-service program.

## ACKNOWLEDGEMENTS

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CHAPTER I  
INTRODUCTION

Understanding the ways students learn is important to good teaching yet, until recently, secondary students learning style received little attention from most educators (Keefe, 1979). Information about individual patterns of learning was seldom a part of proposals to individualized education. Numerous efforts, however have been launched by secondary schools during the past decade to improve the individualization of instruction. These efforts ranged from programmed learning to flexible scheduling and from computer-assisted instruction to interactive television. While these programs and others enjoyed some success the general reaction among educators was one of disappointment. No one model seemed to be superior (Keefe, 1979).

We have seen that part of the problem was the tendency to apply a single approach to all students. That is all students were expected to learn under individualized instruction, small-group instruction, or programmed learning.

Student learning style challenges this premise and argues for an eclectic instructional program, one based upon a variety of techniques and structures reflecting the

different ways that individual students acquire knowledge and skill.

The key is for secondary teachers to gain an understanding of student learning styles and in turn design educational programs and materials that respond directly to individual student learning preferences.

#### Statement of Problem

The problem was that secondary teachers needed to increase their awareness and understanding of how the learning disabled student responds to different learning styles. That problem is further compounded by the lack of in-service training programs for teachers.

#### Purpose

The purpose of this study was to develop an in-service program for secondary teachers. The program resulting from this project will be available for possible implementation by the Bremerton School District through curriculum development funding.

#### Limitations

This project was developed for use with secondary teachers, counselors, school administrators, parents, and all those who are interested in educational programs designed to meet the needs of the learning disabled student.



### Significance of the Study

There existed a need for in-service training concerning how secondary learning disabled students respond to learning style because of the poor success rate of the learning disabled student in their mainstreamed classes (Cole & Dunn, 1979). If learning disabled students are to be mainstreamed successfully, there must be adequate planning and provision for their special needs (Carbo, 1981). Because of the poor success rate, the learning disabled are being denied an adequate education which is not only detrimental to the students involved but, could result in a malpractice suit against school systems and their personnel (Dunn & Cole, 1979).

We can no longer assume that all students will learn through which ever strategy the teacher prefers to use. In recognizing the importance of adopting curriculum and instruction to learners' aptitudes Keefe (1979) stated:

Learning style opens the door to placing individual instruction on a more rational basis. It gives the most powerful leverage yet available to educators to analyze, motivate and assist students in school. As such it is the foundation of a truly modern approach to education. (p. 37)

Like learning style, some teaching styles are rigid and others are flexible. The style of the teacher influences the choice of programs, content, methods, and environment yet teachers tend to use a few methods repeatedly (Dunn & Dunn, 1979).

Teachers have different teaching styles and students at the secondary level are exposed to those various styles

and must adapt to them. It is vital that teachers become sufficiently skilled with several styles in order to teach students in their preferred style (Keefe, 1979).

Research revealed that only 2 to 4 children in 10 learn best listening yet 90% of instruction is verbal with the teacher talking and student "absorbing" through hearing. Another 3 to 4 of 10 learn best visually (Dunn & Dunn, 1978).

Matching teaching strategies to the individual students learning style characteristics is advocated by Dunn and Cole (1979):

Repeatedly our data revealed that when taught through methods that complimented their learning characteristics, students at all levels became increasingly motivated and achieved better academically. (p. 303)

Teachers in regular education are not trained to serve special education students. Unless regular education teachers are taught to identify learning styles and to prescribe instructional materials and programs on the basis thereof, the academic needs of the student are not being completely met. Guild (1981) stated:

Students with certain learning styles are either facilitated or hampered by the particular teaching method to which they are exposed. Some schools and classrooms are more useful for some style. If a student's style harmonizes with the style and demands of schooling or particular segment of school, the learning task will be easier. Harmony between instructional method and individual learning style enables more learning to go directly to the task at hand. (p. 39)

Bursuk (1979) suggested that in order to develop appropriate modified teaching strategies and curriculum for mainstreaming of the learning disabled, educators must

determine each student's preferred learning modality. He pointed out that development of extensively modified materials without prior assurance that those materials will be useful can be dangerous. One must be confident, he explained, that one is not developing an auditory approach for a student who is extremely deficit in auditory reception abilities.

Modality based instruction reflects two main concerns of educators according to Barbe (1981):

It is effective because it capitalizes on children's strengths. It is efficient because it does not waste time building on weaknesses. Teaching to modality strengths will not solve every instructional problem but it is a method with great promise for students of all ability levels. (p. 379)

#### Need for Project

A need was determined for in-service through interviews and discussions with the Bremerton School District Superintendent, Curriculum Director, Supervisor of Special Education, High School Principal, and two Vice Principals. All were overwhelmingly enthusiastic and supportive of an in-service program.

Needs assessment interviews that were conducted with six regular education teachers and four special education teachers gave further impetus for an in-service program. Most teachers were admittedly unprepared to deal with the special needs of the learning disabled student.

#### Definition of Terms

The following terms are given as clarification of content in this project:

Learning Style: Those environmental, sociological, psychological, and physical characteristics through which a student learns most easily (See Table 1, Appendix D).

Teaching Style: A teachers personal behaviors and the media used to transmit to or receive data from the learner.

Specific Learning Disability: A disorder in one or more of the basic psychological processes involved in understanding or using spoken or written language resulting from perceptual-motor handicaps. Such disorders may include problems in visual and auditory perception and integration which may manifest itself in an impaired ability to think, speak, or communicate clearly, read with comprehension, write legibly and with meaning, spell accurately, and to perform mathematical calculations, including those involving reading. The presence of a specific learning disability is indicated by near average, average, or above average intellectual ability, but nonetheless the student demonstrates significant performance deficits in one or more of the following academic achievement areas: (a) oral expression, (b) listening comprehension, (c) written expression, (d) basic reading skill, (e) reading comprehension, (f) mathematics calculation, (g) mathematics reasoning. Provided, that such a performance deficit cannot be explained by visual or hearing problems, motor handicaps, mental retardation, a behavioral disability, or an environmental, cultural, or economic disadvantage. Specific learning disability

includes considerations described as perceptual handicap, minimal brain dysfunction, dyslexia, and developmental aphasia.

Mainstreaming: Procedures to assure that to the maximum extent appropriate, handicapped children, including children in public or private institutions or other care facilities, are educated with children who are not handicapped and that special classes, separate schools, or other removal of handicapped children from the regular educational environment occurs only when the nature of severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily.

Secondary Teachers: Teachers of grades 9-12.

CHAPTER II  
REVIEW OF THE LITERATURE

Introduction

It is the purpose of this chapter to present an overview of available information pertaining to learning style and in-service programs.

The following review of the literature was obtained through: Educational Resources Information Service (ERIC) computer search, Current Index to Journals in Education, Learning Style Network Services.

History of Learning Style

A review of the literature reveals that elements of learning style appeared in the research literature as early as 1892. Most of this early research was concerned with the relationship between memory and oral or visual teaching methods. Keefe (1979) stated that even before 1900, Cattell and Jastrow attempted to relate difference in perceptual mode to general intelligence and learning performance with little success.

The term "cognitive style" was coined by Allport in 1937 to refer to a quality of living and adapting influenced by distinctive personality types. Keefe (1979) also stated

that in the 1940s, Thurstons and Guilford identified factors of perceptual speed and flexibility which they thought were related to personality.

Specific research on cognitive style was expanded after World War II at Brooklyn College, the Menninger Foundation, and the Fels Institute. Asch and Witkin at Brooklyn College worked with the bipolar trait of "field dependence-independence": the ability of a person to identify a figure against a background field. In time, Witkin and his associates broadened this notion to include "analytic-global" functions and the concept of "psychological differentiation" (Guild, 1981). Holtzman and Gardner at the Menninger Foundation identified a group of cognitive control factors: differentiation vs. undifferentiation, leveling vs. sharpening; equivalence range, tolerance for unrealistic experiences, and flexible vs. constructed control. The Menninger group concentrated on cognitive style as a complexus of cognitive controls. At the Fels Institute, Kagan and his colleagues focused on analytic styles of thinking and problem solving. Research on analytic and nonanalytic models led to the identification of a "reflection-impulsivity" dimension: the reflective person tends to analyze and thoroughly differentiate a complex concept, an impulsive person is inclined to make quick and often erroneous responses (Guild, 1981).

Current efforts to explain the underlying processes of learning and teaching reflect two lines of research. One group is working with applied models of learning style.

This group according to Hunt (1979) is represented by McKenny, Hunt, Hill, Dunn and Dunn. It is concerned about the multidimensional implications of learning style. Interview techniques or self-report questionnaires are utilized to allow students to identify their own perceptions of their characteristic traits. The Dunn's work draws together cognitive, affective, and physiological styles from research and gives it school application. The Dunn's advocate that students should always be taught through their modality strengths. They are interested in the characteristic patterns the learner shows in response to the various stimuli they have identified through a Learning Style Inventory. They, with Price have developed the LSI to assess a student's preference for various elements. The results of the assessment gives a profile to a student's learning preference. Once a student's style is identified, the Dunn's suggested accommodation by matching styles to teacher, curriculum, methods, and activities (Dunn, Dunn, & Price, 1979).

The Dunn's are unique in the field because their work is readily available to the general classroom teacher.

The other line of research in applied models of learning retains a strong preference for the "cognitive style" dimension. A good example according to Keefe (1979) is the model developed by McKenny at the Harvard Business School. For McKenny, human information processing has two dimensions: information gathering (preceptive vs. receptive) and



information evaluating (systematic vs. intuitive). The McKenny model is based primarily on the cognitive style research of Witkin. Thus far the model has been applied primarily to managerial decision making process (Keefe, 1979).

### Learning Style Assessment

Since most assessment instruments were developed to diagnose specific learning style characteristics identified by each researcher, there seems to be little agreement on the general methods of assessment (Price, 1977).

Many of the major instruments used to diagnose learning style were reviewed in a report by Ohio State's University's National Center for Research in Vocational Education (Kirby, 1979). They are: (a) Dunn, Dunn, and Price: Learning Style Inventory: a self reporting instrument based on a rank ordering of choices for each 104 items. It is for use with grades 3-12. Approximate time to administer: 30 minutes. (b) Hill: Cognitive Style Inventory: a self report instrument based on rank ordering which measures abstractions, visual, tactile, and auditory perceptions, motor coordination, and social interaction. For use with elementary-adult levels. Approximate time: 50 minutes. (c) Hunt: Teacher Assessment of Learning Styles: Observations based on student reactions to systematic teacher-introduced changes in structure. Paragraph Completion Method: a semiprojective method which assess conceptual level. Students write responses to a posed topic. For use with grade 6-adult. Approximate time: 20 minutes.

Cavanaugh (1979) recommended using the Dunn's Learning Style Inventory for diagnosis directly related to instruction. Teachers who want to know how well students can adapt to alternative learning situations need practical data like that generated in the LSI.

### In-Service Training Programs

In-service is concerned with the development of instructional staff members in such ways as to have a reasonably direct impact upon the quality of instruction offered in a school or college (Harris, 1969).

A review of related literature reveals that in-service training is used to update curriculum, enrich learning programs, and develop innovative educational ideas (Carberry & Waxman, 1981).

### Guidelines for Developing and Designing In-Service

O'Rourke (1969) maintained that the essential characteristics of inservice are:

The all over purpose must be clearly defined, the activity must be based upon the problems, needs and interests of the participants, the planning and process of the inservice is cooperative and participatory throughout, evaluation is continuous and facilities should permit varied experiences. (p. 6)

Davis and Armistead (1975) made 10 suggestions as to what teachers like at in-service training:

(1) active involvement (2) demonstrations (3) practical information (4) short to the point presentations (5) indepth treatment of one concept (6) well organized format (7) variety (8) incentives for attending (9) inspirational speakers occasionally (10) the opportunity to visit others doing similar things. (p. 27)

Carberry and Waxman (1981) conducted several in-service training sessions concerning learning disabled students.

They indicated that a good in-service program is one that:

Was small in nature, practical as opposed to theoretical, specific as opposed to general, informal in nature whereby teachers would be able to freely discuss any concern they had, and dealt with a topic that grew from their need not the need of the administration.  
(p. 26)

They further pointed out that in-service needs to be highly diversified, efficient, and well organized.

### Evaluating In-Service

All authors felt strongly that evaluation should be continuous and participatory, formal or informal, and conducted at any time. Most advocated a comprehensive survey at the conclusion and others suggested that it is quite common to give a questionnaire at the opening and again at the conclusion of in-service in order to evaluate change in belief, attitude, and procedure.

Carberry and Waxman (1981) indicated that evaluation should take place through continual monitoring with on going feed back immediately after each session. They suggested final evaluation over time to assess further needs, planning, implementation, and design.

## CHAPTER III

### PROCEDURES

In developing an in-service program for secondary teachers on how learning disabled students respond to learning styles the following procedures were used:

- I. Needs Assessment was conducted (Appendix A)
  - A. Purpose: The needs assessment was conducted to determine the validity of a perceived need: were the needs of the learning disabled student being met in the content mainstreamed classes. Did secondary staff feel they were trained to accommodate different student learning styles and did secondary staff and administration feel in-service training would be appropriate and well received.
  - B. Method of needs assessment: The needs assessment was conducted by personal interviews using prepared questions, with administrative staff and secondary teachers (regular education and special education).

C. Population interviewed:

1. District Administrators: Superintendent, Curriculum Director, Supervisor of Special Education, High School Principal, and two Vice Principals.
2. Six secondary teachers in regular education content areas who have taught learning disabled students in the past.
3. Four special education teachers.

D. Results: All responded in favor of in-service training to help meet the needs of the learning disabled student in the mainstreamed content classes. Administrators agreed that curriculum development funds could be used to implement the in-service program during the 1982-1983 school year.

E. Areas of instruction at in-service:

1. Characteristics of the learning disabled student.
2. The Dunn and Dunn applied model of student learning style.
3. How to diagnose for learning style modalities using a learning style inventory.
4. How to construct learning style materials.
5. How to match individual learning style characteristics with instructional programs, methods, and resources.

II. Review of the Literature: A review of the literature in the areas of learning style and in-service training was conducted to gain an understanding of work already completed.

III. Workshop designed and completed:

- A. Background: Based upon needs assessment information and review of the literature an in-service training program was developed for use in the Bremerton School District.
- B. Time: In-service consisting of five 2 hour sessions offered over a period of 5 weeks is scheduled. These five in-service sessions shall be offered after school and 1 hour of in-service credit shall be offered through the curriculum development office.
- C. Location: In-service shall be conducted in the library at Bremerton High School.
- D. Program Coordinator: The author, a special education resource room teacher who is directly involved with students and secondary staff, will conduct the in-service program.
- E. Input: Continuous feed back will be encouraged to meet the needs and concerns of the participants.
- F. Evaluation: Pre/post in-service evaluation will be conducted.

IV. Recommendations: Suggestions for the use of the in-service program for possible use at the Junior High School and Elementary school were addressed.

CHAPTER IV  
THE PROJECT

The purpose of this project was to develop an in-service program for secondary teachers to increase their understanding of how learning disabled students respond to learning styles. The in-service program was organized into five 2 hour sessions. The format for each session contains an agenda for participants, an outline guide for the presenter, instructions for each instructional activity, and participant handouts. The content of the in-service program includes: characteristics of the learning disabled student, a review of the learning style literature, the Dunn and Dunn applied model of student learning style, and two materials development sessions.



LEARNING STYLE IN-SERVICE

SESSION I

PARTICIPANT AGENDA HANDOUT  
LEARNING STYLE IN-SERVICE SESSION I

OVERVIEW:

A look at the characteristics of the learning disabled student, a student profile, and learning style theory.

AGENDA

- I. WELCOME, INTRODUCTIONS, GOALS, AND PRE IN-SERVICE EVALUATION
- II. CHARACTERISTICS OF THE LEARNING DISABLED STUDENT
- III. ALL ABOUT LEARNING STYLES

## PRESENTER'S OUTLINE GUIDE

## LEARNING STYLE IN-SERVICE SESSION I

- I. TERMINAL OBJECTIVE: Given instruction, participant will identify characteristics of the learning disabled student and gain an understanding of learning style and how learning disabled students respond to the elements of learning style as defined by Dunn and Dunn (1978).
- II. INSTRUCTIONAL ACTIVITIES:
  1. Welcome, introductions, goals, and pre in-service evaluation.
  2. Characteristics of the learning disabled student.
    - A. Definitions
    - B. Ten most often cited characteristics of the learning disabled student
    - C. Profile of a hearing disabled student
  3. Learning Style:
    - A. Overview: a review of the literature
    - B. Dunn and Dunn (1978) applied model of learning style
    - C. Film: "Tell Me About: Learning Style
    - D. Learning Interviews

INSTRUCTIONS FOR ACTIVITY 1, SESSION I: WELCOME, INTRODUCTIONS, GOALS, AND PRE IN-SERVICE EVALUATION

WELCOME: The Bremerton School District Curriculum Director will welcome participants to the learning style in-service program. He will explain the purpose and need for the in-service program and give the details for obtaining 1 hour of in-service credit through the curriculum office.

INTRODUCTIONS: The Curriculum Director will introduce the presenter and provide information about background, education, and interest in learning styles. The presenter will ask the participants to introduce themselves by stating their name, subject, and grade level taught.

GOALS: The presenter will state that the goal of the in-service program is to create an awareness and understanding among secondary teachers of how the learning disabled student responds to different learning styles. The presenter will give narrative explaining an overview of the different sessions and how the overall goal of the workshop will be met.

PRE IN-SERVICE EVALUATION (Appendix B): Presenter will distribute the evaluation form, read the directions to the participants, and ask the participants to complete the evaluation form.

INSTRUCTIONS FOR ACTIVITY 2A, SESSION I: CHARACTERISTICS OF THE LEARNING DISABLED STUDENT (DEFINITIONS).

The presenter will deliver narrative to cover the definition of learning disabled as it is stated in

P.L. 94-142:

"Specific learning disability" means 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. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing or motor handicaps or of mental retardation, or of environmental, cultural or economic disadvantages.

The presenter will read the definition given in the Washington Administrative Code and found in Chapter I of this project. Discussion of the two definitions will follow. Input from the participants will be encouraged.

INSTRUCTIONS FOR ACTIVITY 2B, SESSION I: THE 10 MOST OFTEN CITED CHARACTERISTICS OF THE LEARNING DISABLED STUDENT.

The presenter will distribute the participant handout and discuss each characteristic listed in detail giving examples whenever appropriate. The presenter will encourage participants to give input from their experience with students in their content areas wherever appropriate.

INSTRUCTIONS FOR ACTIVITY 2C, SESSION I: PROFILE OF A  
LEARNING DISABLED STUDENT

The presenter will distribute participant handout "Profile of a Learning Disabled Student" and give the following instructions to the participants:

1. Break into groups of four by working with people seated closest to you.
2. Read the profile using an agreed upon method.
3. Make a list of Characteristics that would make it difficult for a learning disabled student to learn in your class.

The presenter will reassemble the group and conduct a group discussion by compiling a list of characteristics using input from the various groups of participants. These student characteristics will be placed on a chalkboard or a large piece of paper. The compiled list of learning disabled characteristics taken from the profile will provide discussion material for the presenter.

INSTRUCTIONS FOR ACTIVITY 3A, SESSION I: A REVIEW OF THE  
LEARNING STYLE LITERATURE.

The presenter will deliver a narrative covering an overview of learning style using a review of the literature found in chapter II of this project. To conclude the presentation, the presenter will distribute to each participant, a copy of the following article: Dunn and DeBello, Learning style researchers define differences differently. Educational Leadership, Feb., 1981, pp. 371-375. A question and answer period will follow after the presenter has pointed out the important contributions of the various researchers in the field of learning style.

INSTRUCTIONS FOR ACTIVITY 3B, SESSION I: THE DUNN AND DUNN  
APPLIED MODEL OF STUDENT LEARNING STYLE.

The presenter will discuss the Dunn and Dunn model of student learning style by placing an overlay describing the 18 elements of learning style (Table 1, p. 36), on an overhead projector. A copy of this table will also be distributed to the participants as a handout. The presenter will describe and discuss each element in detail by using the text found on pages 5-17 of the Dunn's book: Teaching Students Through Their Individual Learning Styles: A Practical Approach (1978). Input will be encouraged from the participants and questions answered by the presenter.

INSTRUCTIONS FOR ACTIVITY 3C, SESSION I: FILM PRESENTATION,  
"Tell Me About: Learning Styles."

The presenter will give an overview of the film "Tell Me About: Learning Styles" written by Thompson, and produced by Firestone Associates, 1980. The presenter will explain that this film explores the concept of learning styles using the pioneering work of Dunn, Dunn, and Gregorc. The presenter will lead a group discussion after the film, stressing the appropriateness of the application of the Dunn and Dunn model to the learning disabled student.

INSTRUCTIONS FOR ACTIVITY 3D, SESSION I: LEARNING INTERVIEWS.

The presenter will distribute the participant handout and give the following directions for this group activity:

1. Work with a partner
2. Interview each other about your learning
3. Use the questions on the handout as guides
4. After the interview, give each other feedback

verbally.

The presenter will reassemble the group and discuss the results of how the learning interviews differed as individuals differ. The presenter will encourage the participants to give examples of their unique ways in which they learn.



## PARTICIPANT HANDOUT FOR ACTIVITY 2B, SESSION I

CHARACTERISTICS OF THE LEARNING DISABLED STUDENT

Most textbooks agree on characteristics commonly associated with learning disabled students. Keough and Morgulis (1976) listed the 10 most often cited in the literature, in order of frequency:

HYPERACTIVITY refers to constant motion. It is difficult for some children to sit at their desks; they prefer to glide aimlessly about the room. When they are seated, they often rock back and forth in their chairs, tap their fingers, and shuffle their feet.

PERCEPTUAL-MOTOR IMPAIRMENTS refers to the inability to identify or discriminate. Some students have difficulty identifying visual or auditory symbols. Others are unable to discriminate among a series of letters, sounds, or shapes. Perceptual disorders are distinguished from sensory defects such as blindness or deafness; some children with perfect eyesight are unable to identify certain symbols or discriminate between a set of symbols.

EMOTIONAL LABILITY has to do with a child's emotional condition. Some children are high-strung and nervous. Some of them have a low frustration thresholds; others have weak self-concepts.

GENERAL COORDINATION DEFICITS relates to the physical awkwardness of some children. Some students cannot throw or

catch a ball as well as their peers. Some children are generally clumsy when they walk; they stumble and often fall.

DISORDERS OF ATTENTION refers to an inability to stay on task. Keogh and Morgulis (1976) described three types of attention: the ability to attend initially to an object, the ability to switch from one symbol to another, and the ability to stay on a certain situation. Some children have problems with one or more forms of attention.

IMPULSIVITY means that some youngsters react suddenly to a wide variety of events. They are unable to filter certain visual or auditory stimuli. Furthermore, their actions do not appear to be contemplated.

DISORDERS OF MEMORY relates to an inability to remember past experiences. Some students are unable to remember over long periods of time, others cannot recall facts after a short period. Some children cannot remember visual symbols, whereas others cannot recall auditory messages.

SPECIFIC LEARNING DISABILITIES refers to an inability to perform in certain academic areas. Many students have difficulty learning to say words, to read in context, or to comprehend. Others have problems with handwriting, creative writing, spelling, and mathematics.

DISORDERS OF LANGUAGE are widely varied. Some students have a very limited verbal repertoire; others are clumsy in arranging their words. Some children have problems with specific features of language-for example, correctly forming

plurals. Others have articulation or voice problems, whereas still others use a language of their own invention.

EQUIVOCAL NEUROLOGICAL SIGNS means that some learning disabled youngsters may be brain-damaged. A few investigators learned that some brain-injured individuals were hyperactive. Other investigators concluded that if students displayed these behaviors, they were brain-injured.

BEHAVIORAL DISPARITY refers to wide performance differences. Some students are quite capable in mathematics and handwriting but have great difficulty with spelling and reading. Others can read orally very well but cannot comprehend. These discrepancies are sometimes as wide as 3 or 4 grade levels.

## PARTICIPANT HANDOUT FOR ACTIVITY 2C, SESSION I

PROFILE OF A LEARNING DISABLED STUDENT

Students with learning disabilities usually show some, but not all, of the following characteristics: \*

1. Short attention span
2. Restlessness
3. Distractability (The student seems especially sensitive to sounds or visual stimuli and has difficulty ignoring them while he/she is studying.)
4. Poor motor coordination (This may be seen as clumsiness, or, for example, as difficulty with fine motor movements involved in handwriting.)
5. Impulsivity (Responding without thinking.)
6. Perseveration (The student tends to say or do things over and over.)
7. Handwriting is poor (Letters will not be well formed, spacing between words and letters will be inconsistent, writing will slant way up or down on unlined page.)
8. Inaccurate copying (The student has difficulty copying things from the chalkboard and from textbooks; for instance, math problems may be off by one or two numbers that have been copied incorrectly or out of sequence.)
9. Can express him/herself well orally but fails badly when doing so in writing. In a few cases the reverse is true.

10. Frequently misunderstands what someone is saying. (For instance, a student may say "What?", and then may or may not answer appropriately.)
11. Marked discrepancy between what he/she is able to understand when listening and reading.
12. Has trouble with variant word meanings and figurative language.
13. Has problems structuring (organizing):
  - a. Time - The person is frequently late to class and appointments; seems to have no "sense" of how long a "few minutes" is opposed to an hour; has trouble pacing him/herself during tests.
  - b-1. Space - The student may have difficulty concentrating on work when in a large, open area, even when it's quiet; may over- or under-reach when trying to put something on a shelf.
  - b-2. Space - Has difficulty spacing an assignment on a page, i.e., math problems are crowded together.
  - c. Thoughts - A student's ideas wander and/or are incomplete in spoken and written language. He/she may also have difficulty sequencing ideas.
  - d. Sounds - A student's hearing acuity may be excellent but when his/her brain processes the sounds used in words, the sequence of sounds may be out of order, i.e., the student hears "aminal" rather than "animal." He/she may say and/or write "aminal."

- e. Visual selectivity - A student may have 20/20 vision but when his/her brain processes visual information, i.e., pictures, graphs, words, numbers, he/she may be unable to focus visual attention selectively. In other words, everything from a fly speck to a key word in a title has equal claim on his/her attention.
14. Word retrieval problems - The student has difficulty recalling words that he/she has learned.
  15. Misunderstands nonverbal information, such as facial expressions and/or gestures.
  16. Very slow worker - but may be extremely accurate.
  17. Very fast worker - but makes many errors and tends to leave out items.
  18. Visual images - A student has 20/20 vision but sees things out of sequence; i.e., "frist" for "first"., "961" for "691". Or, a student may see words or letters as if they were turned around or upside down; i.e., "cug" for "cup" or "dub" for "bud" or "9" for "6" or "L" for "7", etc.
  19. Makes literal interpretations - You will have to have them give you feedback on verbal directions, etc.
  20. Judges books by their thickness because of frustration when learning to read.
  21. Has mixed dominances; i.e, student may be right handed and left eyed.
  22. Moodiness - Quick tempered, frustrates easily.

23. Cannot or feels uncomfortable looking people in the eyes when talking to them.

Finally, a student who is learning disabled is NOT retarded. He/she has normal or above normal intelligence but is functioning below his/her norm in one or more academic areas; i.e., an 18 year old learning disabled student with an I.Q. of 130 may be functioning at college level in math but at the 10th grade level in reading comprehension and at the 6th grade level in spelling.

\* Show ratio of characteristics.

Students with learning disabilities which affect their performance in math generally fall into two groups:

1. Those students whose language processing (input and output) and/or reading ability are impaired.

The above students will have great difficulty doing word problems; however, if the problems are read to them, they will be able to do them.

2. Those students whose abilities necessary to do quantitative thinking are impaired.

The above students often have one or more problems such as the following:

- a. Difficulty in visual-spatial organization and in integrating nonverbal material. For example, a student with this kind of problem will have trouble judging distances, distinguishing differences in amounts, sizes, shapes, and lengths. He/she may

also have trouble looking at groups of objects and telling what contains the greater amount. This student frequently has trouble organizing and sequencing material meaningfully on a page.

- b. Difficulty in integrating his/her visual and kinesthetic processes. For example, a student will be inaccurate in copying problems from a textbook or blackboard onto a piece of paper. The numbers may be out of sequence or the wrong numbers (i.e., copying "6" for "5"). Problems may be out of alignment on the paper. Graph paper is a must for these students.
- c. Difficulty in visually processing information. For example "and" "or" will be perceived as being the same. Numbers will often be misperceived - "6" and "9", "3" and "8", or "7" and "9" are often confused. The student may also have trouble revisualizing, i.e., calling up the visual memory of what a number looks like or how a problem should be laid out on a page.
- d. Poor sense of time and direction. Usually students in the second group have the auditory and/or kinesthetic as their strongest learning channels. They need to use manipulative materials accompanied by oral explanations from the instructor. They often need to have many experiences with concrete materials



before they can move on successfully to the abstract and symbolic level of numbers.

## PARTICIPANT HANDOUT ACTIVITY 3B, SESSION I

Table 1

| Stimuli       | Elements of Learning Style  |
|---------------|---|
| ENVIRONMENTAL | sound, light, temperature, classroom design                                 |
| EMOTIONAL     | motivation, persistence, responsibility, structure                          |
| SOCIOLOGICAL  | self, pair, team, authority, varied   |
| PHYSICAL      | perceptual (auditory, visual tactual, kinesthetic) intake, time, mobility   |
| PSYCHOLOGICAL | analytic-global, reflective-impulsive, field dependence, field independence |

Source: Dunn, R., & Dunn, K. Teaching students through their individual learning styles: A practical approach. Virginia, 1979, p. 4.

## PARTICIPANT HANDOUT FOR ACTIVITY 3D, SESSION I

LEARNING INTERVIEWS

Please work with a partner. Interview each other about your learning. Use the questions below as starters or guides. After the interview, give each other feedback verbally.

1. How did you learn what you have learned best?
2. What has been hard for you to learn? Why?
3. What other people have been the most helpful to your learning? In what ways?
4. What role has memory played in your learning? How do you remember?
5. Is there a difference between how you learn for yourself and how you learned in school?
6. How has the anticipation of different kinds of rewards influenced your learning behavior? Can you think of an example this past week?
7. How have you helped others to learn?
8. How do you define learning?
9. List other questions you find helpful.

LEARNING STYLE IN-SERVICE

SESSION II

PARTICIPANT AGENDA HANDOUT  
LEARNING STYLE IN-SERVICE SESSION II

OVERVIEW:

Using a Learning Style Inventory and designing prescriptions on the basis of learning style characteristics.

AGENDA

- I. REVIEW OF SESSION I
- II. HOW TO ADMINISTER, SCORE, AND INTERPRET THE LEARNING  
STYLE INVENTORY
- III. DESIGNING PRESCRIPTIONS ON THE BASIS OF LEARNING  
STYLE CHARACTERISTICS

## PRESENTER'S OUTLINE GUIDE

## LEARNING STYLE IN-SERVICE SESSION II

- I. TERMINAL OBJECTIVE: Given instruction, participant will administer, score, and interpret a learning style inventory and design prescriptions on the basis of learning style characteristics.
- II. INSTRUCTIONAL ACTIVITIES:
  1. Review of Session I.
  2. The Learning Style Inventory (Dunn, Dunn, & Price, 1981).
    - A. Background, rationale, use, and validity
    - B. How to administer the LSI
    - C. How to score the LSI
    - D. How to interpret the LSI
  3. Designing prescriptions on the basis of learning style characteristics.

INSTRUCTIONS FOR ACTIVITY 1, SESSION II: REVIEW OF SESSION I.

The presenter will give a brief review of session one by asking for input from the participants about their increased awareness of learning style and learning style differences they may have noticed during the week at school or at home. Whenever possible, the presenter should encourage application to the learning disabled student.

INSTRUCTIONS FOR ACTIVITY 2A, SESSION II: LSI BACKGROUND, RATIONAL, USE, AND VALIDITY.

The presenter will deliver a narrative presentation on the background, rational, use of the LSI and its validity, by referring to the Learning Style Inventory Manual, by Dunn, Dunn, and Price (1981), pp. 1-5. The presenter will encourage comments and questions from the participants.

INSTRUCTIONS FOR ACTIVITY 2B, SESSION II: HOW TO ADMINISTER THE LSI.

The presenter will demonstrate how to administer the LSI by showing a sample of the (a) test booklet directions and questions, (b) an answer sheet, (c) a computer score sheet, and (d) an answer sheet if hand scored. The presenter must emphasize that when administering the test to learning disabled students the questions must be taped in advance by

the instructor or read to the students by the instructor to insure validity. Many learning disabled students do not read well enough to take the LSI in the conventional manner.

INSTRUCTIONS FOR ACTIVITY 2C, SESSION II: HOW TO SCORE THE LSI.

The presenter will demonstrate how to hand score the LSI or order computer scored services by referring the LSI Manual, p. 2.

INSTRUCTIONS FOR ACTIVITY 2D, SESSION II: HOW TO INTERPRET THE LSI.

Interpretation of the Learning Style Inventory will be discussed in a narrative fashion by the presenter, using the material found on pp. 4-12 of the Learning Style Inventory Manual (Dunn, Dunn, Price, 1981). Particular attention should be given to each of the 18 elements with relation to the standard score and what that in turn is interpreted to mean to the learning disabled student's preferred modality. Discussion, questions, and answers should be encouraged by the presenter.



INSTRUCTIONS FOR ACTIVITY 3, SESSION II: HOW TO PRESCRIBE FOR LEARNING STYLE ON THE BASIS OF LEARNING STYLE CHARACTERISTICS.

The presenter will distribute participant handout "How to Prescribe for Learning Style on the Basis of Learning Style Characteristics," and discuss the information in detail. It should be stressed during the discussion of the handout that this is in fact, an overview of the next three in-service sessions. Each method and resource mentioned in the handout will be covered in detail during the materials constructions sessions. Input from the participants will be encouraged by the presenter.

## PARTICIPANT HANDOUT FOR ACTIVITY 3, SESSION II

DESIGNING PRESCRIPTIONS ON THE BASIS OF LEARNING  
STYLE CHARACTERISTICS

1. METHOD OR RESOURCE: Programmed Learning

Learning Style Characteristics to which

It Responds: Motivation, persistence, responsibility,  
and a need for structure, a need to work  
alone, a visually oriented student.

Learning Style Characteristics to which

It can Be Accommodated: Sound light, temperature, and  
design; a need for intake,  
appropriate time of day, and a  
need for mobility.

NOTE: Where programmed learning sequences are  
accompanied by tapes, they will appeal to auditory  
learners; when they include films or filmstrips, they  
will reinforce the visually oriented student; when  
teachers design small-group techniques such as team  
learning, peer-oriented students may develop an ability  
to use programs more effectively than if they use them  
exclusively as individual learners.

2. METHOD OR RESOURCE: Contract Activity Packages

Learning Style Characteristics to which

It Responds: A need for sound and an informal design;  
motivation, persistence, and responsibility;  
a need to work either alone, with a friend  
or two, or with an adult, all perceptual  
strengths and weaknesses and the need for  
mobility.

Learning Style Characteristics to which

It can Be Accommodated: Sound, light, temperature, and design; motivation, persistence, responsibility; sociological needs; perceptual strengths, intake, time of day, and the need for mobility.

NOTE: Contract Activity Packages respond to all learning style characteristics provided that (a) they are used correctly, and (b) multisensory resources are developed as part of them.

3. METHOD OR RESOURCE: Instructional Packages

Learning Style Characteristics to which

It Responds: A need for sound or structure; a need to work alone; all perceptual strengths.

Learning Style Characteristics to which

It can Be Accommodated: Light, temperature, and design; motivation persistence intake, time of day, and mobility.

NOTE: Because of their multisensory activities, instructional packages are very effective with slow learners. Unless the curriculum is extremely challenging, they may be boring to high achievers.

4. METHOD OR RESOURCE: Task Cards

Learning Style Characteristics to which

It Responds: Motivation, persistence, responsibility, and the need for structure; visual or tactual strengths.

Learning Style Characteristics to which

It can Be Accommodated: Sound, light, temperature, and design; the need to work alone, with peers, or an adult; intake and time of day.

5. METHOD OR RESOURCE: Tapes and Audio Cassettes

Learning Style Characteristics to which

It Responds: A need for sound; motivation, persistence, responsibility and a need for structure; a need to work alone; auditory strengths.

Learning Style Characteristics to which

It can Be Accommodated: Light, temperature, and design; intake and time of day.

LEARNING STYLE IN-SERVICE

SESSION III

## PARTICIPANT AGENDA HANDOUT

## LEARNING STYLE IN-SERVICE SESSION III

OVERVIEW:

Constructing learning style materials to respond to individual learning style: a materials development session.

AGENDA

- I. REVIEW OF SESSION II
- II. DESIGNING CONTRACT ACTIVITY PACKAGES
- III. DESIGNING PROGRAMMED INSTRUCTIONAL SEQUENCES

## PRESENTER OUTLINE GUIDE

## LEARNING STYLE IN-SERVICE SESSION III

- I. TERMINAL OBJECTIVE: Given instruction, participants will design learning style materials to respond to individual learning style characteristics.
- II. INSTRUCTIONAL ACTIVITIES:
  1. Review of Session II.
  2. Designing contract activity packages.
    - A. Rational and case studies
    - B. Basic principles of constructing CAP's
    - C. Step-by-step guide to designing CAP's
    - D. Materials development
  3. Designing programmed instructional sequences.
    - A. Rational and case studies
    - B. Step-by-step guide to designing programmed instructional sequences
    - C. Materials development

INSTRUCTIONS FOR ACTIVITY 1, SESSION III: REVIEW OF  
SESSION II.

The presenter will use the participant handout on "How to prescribe for Learning Style on the Basis of Learning Style Characteristics" used in Session II, on the overhead projector and encourage participants to respond. The presenter will stress that each method and resource noted in the handout will provide the content for the next two in-service sessions. These methods and resources include the four basic methods for individualizing instruction for learning style.

INSTRUCTIONS FOR ACTIVITY 2A, SESSION III: CONTRACT ACTIVITY  
PACKAGES-RATIONAL.

The presenter will deliver a narrative based on the following rational:

The usually preferred lecture method does not reach all students but in contrast Contract Activity Packages permit individual pacing. CAP's are designed so that students are able to function on academic levels most suitable to them and need not cope with concepts or facts that are inappropriate to their ability. Since learners differ from one another in ability, achievement, interests and learning style, their dependence on teachers as a primary source seriously limits academic progress of some. Some students learn better



through multimedia approach rather than a group lecture. Many students are able to learn more and learn it better through visual, tactual, kinesthetic resources rather than through an auditory approach which is what a lecture is. CAP's reduce student anxiety and frustration without requiring extensive change in the classroom organization. They can be used in self-contained classrooms at any level with most students. Students are permitted to learn in ways they find amiable: by themselves, with a peer, or a small group with a teacher. CAP's are responsible to most learning style characteristics because they may be used with exacting structure for some students and with flexibility with others. The resource alternative selection of the CAP includes auditory, visual, tactual, kinesthetic resources thus permitting students to learn through their strongest perceptual strengths and to reinforce what they have learned through the next strongest sense.

The presenter will encourage input from the participants always reinforcing the rationale to apply to the learning disabled student and his unique needs in the perceptual areas. The presenter will follow up the narrative with the distribution to participants of five case studies describing students whose learning styles are complemented by the use of CAP's. The presenter will instruct the participants to form small groups in which to read and discuss the case studies. The presenter will then reassemble the group and

ask for examples of CAP's that could be constructed in their content area to meet the needs of the student examples in the case studies.

INSTRUCTIONS FOR ACTIVITY 2B, SESSION III: BASIC PRINCIPLES OF CONSTRUCTING CONTRACT ACTIVITY PACKAGES:

The presenter will deliver a narrative based on the following rationale:

A contract activity package is an individualized educational plan that facilitates learning because it includes each of the following elements; (a) simply stated objectives that itemize exactly what the student is required to learn, (b) multisensory resources that teach the information the objective indicates must be mastered, (c) a series of activities through which the information that has been mastered is used in a creative way, (d) a series of alternative ways in which creative activities developed by one student may be shared with one or more but no more than 6 to 8 classmates, and (e) a pre test, a self test, and a post test.

INSTRUCTIONS FOR ACTIVITY 2C, SESSION III: STEP BY STEP GUIDE TO DESIGNING A CONTRACT ACTIVITY PACKAGE.

The presenter will distribute the participant handout "Step by Step Guide to Designing a Contract Activity Package" and discuss each step in detail by giving examples from an already prepared CAP. Examples should come from all content

areas: math, science, history, and english. The presenter will circulate the examples and allow time for the participants to look at them in detail.

INSTRUCTIONS FOR ACTIVITY 2D, SESSION III: MATERIALS  
DEVELOPMENT.

The presenter will give directions to the participants that will enable them to spend some time getting started on a CAP of their own. The presenter will circulate among the participants and offer suggestions, or answer any questions about the procedure. Participants should be encouraged to bring their completed CAP's to the next in-service session to share with other participants.

INSTRUCTIONS FOR ACTIVITY 3A, SESSION III: DESIGNING  
PROGRAMMED INSTRUCTIONAL SEQUENCES-RATIONAL.

The presenter will deliver a narrative based on the following rational:

The second basic method for individualizing instruction is to program instructional materials so that it may be learned in small, simple steps without the direct supervision of an adult. Like any other method, programmed instruction enhances only select learning style characteristics and therefore it should not be prescribed for all students. Programmed instructional sequences are designed

around preselected concepts and skills called objectives that must be mastered by each student. The objectives range from simple to complex and are sequenced so that, after taking a pre test, students are assigned only those that they have not achieved prior to being exposed to the program. Each student is then introduced to the programmed materials at the point where the remaining objectives are either partially repetitive or introductory. All students proceed through the identical sequence but pace themselves and use the program when and where they prefer to study. Because programmed materials are used independently it is important that those students to whom this resource is assigned are motivated to learn the contents of this package. They should also be persistent suggesting that they normally would continue using the materials until the program is completed. Programmed instruction is ideally suited to students who prefer to work alone. It is a perfect match for students who learn best by seeing and for those who need to read, and perhaps, reread materials before they can be absorbed. Teachers who believe that selected students are not motivated, persistent, or responsible, but who recognize that they are slow achievers, visual learners and in need of structure should experiment with programmed instruction. Because this strategy presents concept and skills simply, gradually and repeatedly, and may be used alone without causing either embarrassment or pressure that emerges when one has difficulty achieving among one's peers, many students often become

motivated when using the program. Because a program may be used in a classroom, in a library, or in an instructional resource center, it can be accommodated to each student's environmental and physical preferences. For auditory learners a teacher should add a tape that repeats orally what the text teaches visually. When students are either tactual or kinesthetic learners, the teacher should add games that introduce the programs' objectives through those senses. For students who learn slowly or with difficulty, it is wise to supplement a visual programmed sequence with three other types of perceptual resources: auditory, tactual, and kinesthetic.

The presenter will follow the narrative presentation with the distribution of the participant handout "Case Studies Describing Students Whose Learning Styles are Complemented by Programmed Instruction."

The presenter will instruct the participants to form small groups in which to read and discuss the case studies. The presenter will reassemble the group and ask for examples of Programmed Sequences that could be constructed in their content area to meet the needs of the student examples in the case studies.

INSTRUCTIONS FOR ACTIVITY 3B: STEP-BY-STEP GUIDE TO  
DESIGNING PROGRAMMED LEARNING SEQUENCES.

The presenter will distribute participant handout "Step-By-Step Guide to Designing Programmed Learning Sequences" and discuss each step in detail by showing examples of already prepared learning sequences from different content areas. Particular note will be made by the presenter to differentiate between linear programming or intrinsic programming and show examples of both types. The presenter will circulate the examples and allow time for the participants to look at them in detail.

INSTRUCTIONS FOR ACTIVITY 3C: MATERIALS DEVELOPMENT.

The presenter will give directions to the participants that will enable them to spend some time getting started on a Programmed Learning Sequence of their own. The presenter will circulate among the participants and offer suggestions, or answer any questions about the procedure. The participants should be encouraged to bring their completed programs to share with other participants at the next in-service session.

## PARTICIPANT HANDOUT FOR ACTIVITY 2A, SESSION III

CASE STUDIES DESCRIBING STUDENTS WHOSE LEARNING  
STYLES ARE COMPLIMENTED BY CONTRACT  
ACTIVITY PACKAGES

1. Lisa, a 16 year old high school student, is an outstanding artist. As soon as she completes her homework and required projects, she finds her way down to the art room to browse or continue with her newest creation. The art teacher does not have the time to teach Lisa when other classes are present, but she feels guilty because she knows Lisa has free time, loves art, and remains in the area because she so enjoys working with the media. Miss Jones cannot, however, stop her teaching assignment to direct Lisa.

STUDENTS WHO ARE MOTIVATED AND RESPONSIBLE MAY CONTINUE EITHER ACADEMIC OR CREATIVE STUDIES INDEPENDENTLY, THROUGH A CONTRACT ACTIVITY PACKAGE.

2. Jimmy sat in bewilderment and anger. The teacher was dictating a series of spelling words so quickly that there was no way that he could ever catch up. Had he been given more time to think about each word as it was pronounced, he might have been able to recognize it and then write a synonym; but the pace at which Mr. Smith was dictating was just too rapid for him.

STUDENTS WHO NEED TO WORK MORE SLOWLY THAN THE MEMBERS OF THEIR GROUP WILL PROGRESS AT THEIR OWN PACE AND ACHIEVE SUCCESSFULLY WHEN USING A CONTRACT ACTIVITY PACKAGE.

3. Doug had no interest in anything other than the care and curing of animals. He wandered off his path to school whenever he spied a bird or insect and followed it with his eyes as far as possible. Wounded cats and stray dogs were his hobby, and the thought of an animal without a home brought tears to his eyes. Although Doug would read, his interest in the reader lasted for a sentence or two before his active mind drifted off into thoughts of where his pet hamster might escape to if it were freed from its cage or what might be happening to the sparrow that had raised its babies in his birdhouse last spring. He had little tolerance for any of the subjects that were taught in his class, and although he was not disruptive, he was gradually withdrawing into himself and becoming bored while his teacher became frustrated.

STUDENTS WHO CANNOT BECOME INTERESTED IN THE REQUIRED CURRICULUM AND WHO TURN OFF WHILE SITTING IN THEIR SEATS, CAN MASTER IMPORTANT SKILLS AND KNOWLEDGE THROUGH TOPICS THAT ARE INTERESTING TO THEM, THROUGH A CONTRACT ACTIVITY PACKAGE.



## PARTICIPANT HANDOUT FOR ACTIVITY 3B, SESSION III

CASE STUDIES DESCRIBING STUDENTS WHOSE LEARNING  
STYLES ARE COMPLEMENTED BY PROGRAMMED  
INSTRUCTIONAL SEQUENCES

1. Mark could not work out the fifth example. He pulled his text out from the desk and fingered through its pages until he found the chapter that explained how to convert fractions. He read the section related to that process and was still not certain of how to apply the rule. He leaned over toward a classmate and asked for assistance. When the directions for solving the problem were clear to him, he turned back to the papers on his desk and continued working.

STUDENTS WHO ARE PERSISTENT, WHO CONTINUE WORKING TOWARD THE COMPLETION OF AN ASSIGNMENT AND FIND WAYS TO DO SO, USUALLY RESPOND WELL TO PROGRAMMED INSTRUCTION.

2. Barbara's elbow was on her desk, her forehead rested on the fingers of her clenched hand, and her eyes had just closed tightly. She was trying to reconstruct the page she had read, which, described how Shakespeare had used characters to depict human frailty. Suddenly she recalled the lower left section of the page and was able to "see" the listing of examples. She relaxed, picked up her pen, and began to answer the test question.

STUDENTS WHO ARE VISUAL LEARNERS, WHO REMEMBER MORE BY READING AND SEEING THEN BY LISTENING, USUALLY RESPOND WELL TO PROGRAMMED INSTRUCTION.

3. Tim was having a great time with his kids on his committee. As members tried to find the information for their assignment, he collected their pens, pencils, and notes and hid them inside his desk. When the boys reconvened to decide on how they would present their report, Tim alternated between wandering around the room and tipping his chair to see how far back it could go without falling. When the teacher cautioned him to sit down and work with the group, he picked up a pencil and began to organize the presentation.

STUDENTS WHO DO NOT WORK WELL IN GROUPS MAY WORK BETTER ALONE KNOWING THAT THEY, PERSONALLY ARE RESPONSIBLE FOR COMPLETING AN ASSIGNMENT. SUCH STUDENTS MAY RESPOND WELL TO EITHER PROGRAMS, CONTRACTS, OR INSTRUCTIONAL PACKAGES.

4. Claire was at her teacher's side again. For the fourth time she asked her teacher if she had understood the assignment correctly. Her teacher became very impatient and told her to stop asking the same question over and over again.

STUDENTS WHO REQUIRE STRUCTURE, WHO NEED TO KNOW EXACTLY WHAT TO DO AND HOW TO DO IT, USUALLY RESPOND WELL TO PROGRAMMED INSTRUCTION.

## PARTICIPANT HANDOUT FOR ACTIVITY C, SESSION III

STEP BY STEP GUIDE TO DESIGNING A CONTRACT  
ACTIVITY PACKAGE

The first contract activity package you will design takes time because you must adopt several new techniques with which you may be relatively unfamiliar. The second CAP is not difficult to write at all, and by the time you embark on your third, you will be assisting colleagues and administrators by explaining the process and the reasons for each stage.

- STEP 1 Begin by identifying a topic, concept, or skill that you want to teach. There are two kinds of CAP's. The first a curriculum CAP, covers a topic that you would like to teach all or most of the students in your class. The second, an individual CAP, deals with a topic which only one or a few students might be interested.
- STEP 2 Write the name of the topic, concept or skill that you have decided to teach as a title at the top of a blank sheet of paper.
- STEP 3 List the things about this topic that you believe are so important that every student in your class should learn them. Then list the things about this topic that are important. Examine your developing list of objectives. Be certain that the most

important ones to be learned are placed first. These should be followed by items that are also of consequence but that everyone need not master. Finally add the special items that you believe might be of interest to selected students.

- STEP 4 Translate the important items into behavioral objectives. When students are given a list of items that should be learned, these items are called objectives, they become the students' short-term instructional goals. It is suggested that behavioral objectives which suggest the behaviors that may be used to demonstrate mastery of specific learning goals, be written in a generalized way and that specific behaviors that may be used to demonstrate acquired knowledge or skills be optional through a series of activity alternatives.
- STEP 5 Design at least three or four activity alternatives for each behavioral objective so that the students may choose how they demonstrate that they have learned and what their objectives require of them.
- STEP 6 Create a reporting alternative for each of the activity alternatives that you have designed.
- STEP 7 List all the resources that you can locate that students may use to gain the information required by their behavioral objectives.

- STEP 8 Add at least three small-group techniques to the developing CAP.
- STEP 9 Develop a test that is directly related to each of the behavioral objectives on your CAP.
- STEP 10 Design an illustrate cover for the CAP.
- STEP 11 Develop an informational top sheet.
- STEP 12 Reread each of the parts of the CAP to be certain that they are clearly stated, well-organized, in correct order, and grammatically written.
- STEP 13 Add illustrations to pages so that the CAP is attractive and motivating.
- STEP 14 Duplicate the number of copies that you will need.
- STEP 15 Design a record keeping form.

## PARTICIPANT HANDOUT FOR ACTIVITY 3D, SESSION III

STEP-BY-STEP GUIDE TO DESIGNING A PROGRAMMED  
LEARNING SEQUENCE

Developing a program is not difficult, but it does require that you organize the topic that will be taught into a logical, easy to follow sequence. Begin with Step 1 and gradually move through each of the remaining steps until you have completed your first program. Each consecutive program will become easier and easier to design.

- STEP 1    Begin by identifying a topic, concept, or skill that you want to teach. A good choice would be something that most students in your classes need to learn.
- STEP 2    Write the name of the topic, concept, or skill that you have decided to teach as heading at the top of a blank sheet of paper.
- STEP 3    Translate the heading that you have written at the top of the sheet into an introductory sentence that explains to the student using the program exactly what they should be able to do after they have mastered what the materials are designed to teach.
- STEP 4    List all the prerequisites for using the program effectively.

- STEP 5 Decide which of the two basic types of programming you will use: linear programming or intrinsic programming.
- STEP 6 Outline how you plan to teach the topic, use short, simple sentences if possible.
- STEP 7 Divide the sentences in your outline into frames.
- STEP 8 Using a 5 x 7 index card to represent each frame, develop a sequence that teaches a subject and simultaneously tests the student's growing knowledge of it.
- STEP 9 Refine each index card frame.
- STEP 10 When you are satisfied with the content sequence and questions on the frames, add colorful illustrations to clarify the main point on each index card.
- STEP 11 Read the written material on each frame onto a cassette so that poor readers may use the program by listening to the frames being read to them as they simultaneously read along.
- STEP 12 Ask three or four of your students to try the program, one at a time.
- STEP 13 If necessary, revise the program based on your observations of study an usage.

- STEP 14 Laminate each of the index cards that comprise the program or have them covered with contact paper.
- STEP 15 Add a tactual activity in game form for reinforcement.
- STEP 16 Ask additional students to use the program.
- STEP 17 When you are satisfied that all the bugs have been eliminated add, a front and back cover.
- STEP 18 Design a record keeping form so that you know which students are using and have used the program and how much of it they have completed successfully.



LEARNING STYLE IN-SERVICE

SESSION IV

## PARTICIPANT AGENDA HANDOUT

## LEARNING STYLE IN-SERVICE SESSION IV

OVERVIEW:

Constructing learning style materials: a materials development session.

AGENDA

- I. REVIEW OF SESSION III
- II. DESIGNING MULTI-SENSORY INSTRUCTIONAL PACKAGES
- III. DESIGNING TACTUAL AND KINESTHETIC RESOURCES

## PRESENTER OUTLINE GUIDE

## LEARNING STYLE IN-SERVICE SESSION IV

- I. TERMINAL OBJECTIVE: Given instruction, participant will design learning style materials to respond to individual learning style characteristics.
- II. INSTRUCTIONAL ACTIVITIES:
  1. Review of Session III.
  2. Designing multisensory instructional packages.
    - A. Rational and case studies
    - B. Step-by-step guide to designing multisensory instructional package
    - C. Materials development
  3. Designing tactual and kinesthetic resources.
    - A. Rational
    - B. Tactual resources demonstration
    - C. Materials development
    - D. Step-by-step guide to designing kinesthetic activities

INSTRUCTIONS FOR ACTIVITY 1, SESSION IV: REVIEW OF  
SESSION III

The presenter will ask for group input concerning the development and designing of their Contract Activity Packages and Programmed Learning Sequences. The participants will be asked to share their learning style materials with the group.

INSTRUCTIONS FOR ACTIVITY 2A, SESSION IV: DESIGNING  
MULTISENSORY INSTRUCTIONAL PACKAGES-RATIONAL.

The presenter will deliver a narrative based on the following rational:

Multisensory packages are especially appealing to the student who finds it difficult to sit quietly for long periods of time or who cannot listen to a teacher without frequently interrupting or losing attention. Using a package, these students can concentrate for the amount of time that suits them. Multisensory packages are not effective for students who need continual direct interaction with adults or peers. Multisensory instructional packages are a boon to teachers who want to individualize instruction through direct appeal to personal learning styles but who cannot stretch themselves thin enough for a full class of students with a variety of needs and problems. Because students work independently, the materials are self correcting, the packages can meet the needs of learners on

several academic levels. Students with learning disabilities who require special attention especially. Teachers often do not have the time or patience to teach or reteach each student who needs individualized attention. Multi-sensory instructional packages can do both and offer a variety of benefits too. They develop listening skills, encourage independent work, and teach students to follow directions. They provide a new teaching method when all else has failed. They make students aware of their own academic growth and thus build positive self image, so important to learning disabled students. They are private, no one except the learners and the teacher knows who is learning what and how. They eliminate direct interaction between teachers and the student when poor or negative relationships exists, and of course, they are fun. Because of their multisensory activities, these packages are very motivating to slow learners. The tape, written script, tactual and kinesthetic materials may be used over and over until the student masters the objective of the package. Instructional packages are appropriate to students who require structure. Step-by-step procedures provide clear sequenced directions. Students who prefer to work alone enjoy this method especially. They can take the materials to an instructional area in the room, library, or at home. Sound, in the form of a recorded voice, music, or other taped effects can be provided or modulated through earphones or cassette player. All perceptual strengths are appealed to: visual,

auditory, tactual, kinesthetic. Generally speaking instructional packages are ideal for learning disabled students who require structure and who can be sufficiently motivated by their multisensory activities to progress independently. Multisensory packages can be taken wherever light, temperature, and design of physical environment are appropriate for study. Three other important aspects of learning style, intake, time of day, and mobility are accommodated by instructional packages. Many learning disabled students cannot sit still and work in one place a long time. Multisensory packages allow total mobility.

The presenter will follow this presentation with distributing participant handout "Case Studies Describing Students Whose Learning Style are Complemented by Instructional Packages." The presenter will instruct the participants to form small groups in which to read and discuss the case studies. The presenter will reassemble the group and conduct a group discussion.

INSTRUCTIONS FOR ACTIVITY 2B, SESSION IV: STEP-BY-STEP GUIDE TO DESIGNING MULTISENSORY INSTRUCTIONAL PACKAGES.

The presenter will distribute the participant handout "A Step-By-Step Guide to Designing Multisensory Instructional Packages" and deliver an expanded narrative for each step. The presenter will show examples of several different

instructional packages for different content areas. The presenter will allow the participants to look at them in detail.

INSTRUCTIONS FOR ACTIVITY 2C, SESSION IV: MATERIALS DEVELOPMENT.

The presenter will give directions to the participants that will enable them to spend some time getting started on a multisensory instructional package of their own design. The presenter will circulate among the participants and offer suggestions or answer any questions about the procedure. The presenter will stress materials application to the learning disabled student's preferred modality of learning. The participants will be encouraged to share their packages at the next in-service session.

INSTRUCTIONS FOR ACTIVITY 3A, SESSION IV: DESIGNING TACTUAL AND KINESTHETIC RESOURCES-RATIONAL.

The presenter will deliver a narrative based on the following rational:

Students who do well in school tend to be the ones who learn either by listening in class or by reading. Because of this, most of us believe that the brighter students are auditory and/or visual learners. In reality however, we usually teach by telling (auditory) and by assigning readings

(visual) or by writing on a chalkboard (auditory and visual). Therefore, students who are able to absorb through these two senses are, of course, the ones that retain what they have been taught and respond well on our tests, which are also usually auditory (teacher dictates) or visual (written or printed). Some learning disabled students who do not do well in school are tactual and kinesthetic learners; their strongest perceptual strengths are neither auditory or visual. These students acquire and retain information or skill when they are involved either with handling manipulative materials or by participating in concrete real-life activities. Because so little of what happens at the secondary level instructionally in most classes respond to the tactual and kinesthetic senses, these learning disabled students are in a sense more handicapped than ever. As they fall behind academically they lose confidence in themselves and feel defeated and withdrawn (physically and emotionally) or begin to resent school because of repeated failure. Although there is some parallel between age and perceptual strengths among students, many learning disabled high school students continue to be unable to learn well by either listening in class or by reading. Sensory strengths appear to be so individualized that it is vital to test each student and then to recommend resources that complement their strengths rather than their weaknesses. When it is suspected that students are not learning either through their readings or from class discussion and lecture, experiment with several



resources to provide tactual or kinesthetic instruction. Because tactual and kinesthetic materials tend to be game like, they usually are naturally motivating. Beyond the need for motivation, persistence, responsibility, and structure these sources respond to students who have visual-tactual, tactual-kinesthetic inclinations and who do not learn easily either by listening or by reading. Because these resources may be used in the classroom, in a library, or an instructional resource center as well as at home, they can be accommodated to each student's environmental, and physical preference. Because they may be used independently, in pairs, in small groups, or with an adult, they also respond to each student's sociological needs.

The presenter will answer questions and promote discussion of this rationale with the participants.

INSTRUCTIONS FOR ACTIVITY 3B: TACTUAL RESOURCES DEMONSTRATION.

The presenter will discuss the following types of tactual resources and show prepared examples of each: (a) task cards, (b) learning circles, (c) learning strips, (d) activity cards, and (e) tactile/visual games. The presenter will then give a demonstration on how to understand and make task cards using "What is an Analogy" for an example. The

presenter will encourage input from the participants to supply the analogies.

INSTRUCTIONS FOR ACTIVITY 3C: MATERIALS DEVELOPMENT.

The presenter will circulate among the participants as they begin to develop their own tactual resources appropriate to their content areas. The participants should be encouraged to bring their finished resources to share with the other participants at the next in-service session.

INSTRUCTIONS FOR ACTIVITY 3D: STEP-BY-STEP GUIDE TO DESIGNING KINESTHETIC ACTIVITIES: BODY ACTION GAMES.

The presenter will distribute the participant handout "Step-By-Step Guide to Designing Kinesthetic Activities: Body Action Games" and discuss each step in detail by showing examples on the overhead projector. The presenter should then stress that the body action game may be adapted to use in a social studies class for an example during a unit on "The Battle of Manila Bay: May 1, 1898." The body-action game would be designed that duplicated the geographical maps of the South China Sea, the Phillipines, and Manila Bay. The students would be asked to reenact the first and second battles in sequence by using toy ships and other replicas. Other examples should be offered by the presenter in the other content areas.

## PARTICIPANT HANDOUT FOR ACTIVITY 2A, SESSION IV

CASE STUDIES DESCRIBING STUDENTS WHOSE LEARNING  
STYLES ARE COMPLEMENTED BY MULTISENSORY  
INSTRUCTIONAL PACKAGES

1. Sam looked around. He could not seem to follow the instructions. They were printed on a sheet but they did not make sense to him. He turned to his neighbor, Ed, and asked what he was supposed to do after finishing the second problem. Before Ed could respond, the teacher called out impatiently, "Sam, the directions are printed for you. All you have to do is read them!"

AUDITORY LEARNERS MAY NEED TO HEAR INSTRUCTIONS OR DIRECTIONS: THE PRINTED WORD MAY NOT BE EFFECTIVE FOR THEM.

INSTRUCTIONAL PACKAGES PROVIDE A TAPED VERSION OF THE WRITTEN INSTRUCTIONS.

2. Amy was very creative. She liked to put things together and often ignored the item's directions. Most of the time she was successful, but occasionally she had ruined assignments by not reading instruction sheets. She repeated this pattern at school where she often plunged ahead on a test and answered questions that she had not carefully read. Her projects, too, although inspired, frequently contained many errors or were not completed because of Amy's cavalier approach to directions.

STUDENTS WHO REQUIRE STRUCTURE, CONCENTRATION, CONCISE  
DIRECTION, SEQUENCES, A SINGLE FOCUS, AND LOGICAL STEPS WILL  
BENEFIT FROM THE USE OF INSTRUCTIONAL PACKAGES.

## PARTICIPANT HANDOUT FOR ACTIVITY 2B, SESSION IV

A STEP-BY-STEP GUIDE TO DESIGNING A MULTISENSORY  
INSTRUCTIONAL PACKAGE

- STEP 1 Identify the topic.
- STEP 2 List the things you want the student to learn about the topic.
- STEP 3 Plan to tape-record simple learning objectives for your students use such words as explain, describe, list, and identify.
- STEP 4 Pretend you are teaching your class the most important aspects of the elected topic. Write out exactly what you would say to them. Plan to tape-record this explanation.
- STEP 5 Develop a visual, tactual, and a kinesthetic activity that emphasizes these aspects in different ways. Write the directions for each of the activities as they will be taped.
- STEP 6 Make up a short test that will reveal whether the student has learned the skill and concepts after using the package. This may be recorded as well as written.

STEP 7 Use a colorful cardboard box with a design that reveals the topic and contents. Cover the entire box, including the typewritten topic and the contents, with a clear contact or laminate them for longevity.

## PARTICIPANT HANDOUT FOR ACTIVITY 3D, SESSION IV

STEP-BY-STEP GUIDE TO DESIGNING TACTUAL RESOURCESMaterials

1. One large sheet of plastic, 5 x 6 feet.
2. Smaller pieces of multicolored plastic that can be cut into decorations and illustrations and then glued or sewn onto the larger sheet.
3. Black thin-line permanent ink pens.
4. Black and brightly colored permanent ink felt pens.
5. Glue that will adhere plastic to plastic.
6. Assorted discarded items that, depending on your imagination and creativity you use as part of the game you design.
7. Pad and pencil for sketching ideas.

Directions

1. Identify the information or skills that you want your students to learn.
2. Consider ways in which you can either introduce that information or reinforce it through a body-action game in which selected students can hop or jump or merely move from one part of the large sheet to another as they are exposed to the major points of the topic.
3. Sketch a design on a sheet of paper to work it out before you begin cutting, pasting, or sewing.

4. When you are satisfied with your conceptualization of the game, plan a layout of the various sections on the plastic sheet that you will use; consider the placement of articles, and list the additional items that you can use, noting the ways in which you can use them.
5. In pencil, lightly sketch on the large sheet where you will paste each item, the dimensions that you must plan for, and where you will place key directions.
6. Cut the smaller plastic pieces into appropriate shapes or figures and glue them onto the larger sheet.
7. With a felt pen that will not wash off, trace over those penciled lines that you wish to keep.
8. Develop a set of questions and answers or tasks that students may complete as they use the body-action game. Then either develop an answer card so that students may correct themselves or color-code or picture-code the questions and answers so that the game is self-corrective.
9. If you teach very poor readers, develop a tape that will tell them how to play the game, what the game will teach them, and how they can recognize that they have learned whatever it is the game is designed to teach.
10. If your students are capable of reading and following printed directions, print or type a set of directions for them and attach it to the sheet.



LEARNING STYLE IN-SERVICE

SESSION V

## PARTICIPANT AGENDA HANDOUT

## LEARNING STYLE IN-SERVICE SESSION V

OVERVIEW:

A case study, matching learning style characteristics with instructional programs, and a guest speaker.

AGENDA

- I. A FINAL WORD ON LEARNING STYLE MATERIALS
- II. MATCHING INDIVIDUAL LEARNING STYLE CHARACTERISTICS WITH INSTRUCTIONAL PROGRAMS, METHODS, AND RESOURCES
- III. GUEST SPEAKER: LEARNING STYLE AWARENESS
- IV. CONCLUSION AND POST IN-SERVICE EVALUATION

## PRESENTER OUTLINE GUIDE

## LEARNING STYLE IN-SERVICE SESSION V

- I. TERMINAL OBJECTIVE: Given instruction, participant will match learning style characteristics with instructional programs, methods, and resources.
- II. INSTRUCTIONAL ACTIVITIES:
  1. A final word on learning style materials.
  2. Matching individual learning style characteristics with instructional programs, methods, and resources.
    - A. Mike Hughes: a case study
    - B. Role playing
    - C. Follow up
  3. Guest speaker: "Learning Style Awareness."
  4. Conclusion and post in-service evaluation (Appendix C).

INSTRUCTIONS FOR ACTIVITY 1, SESSION V: A FINAL WORD ON  
LEARNING STYLE MATERIALS.

The presenter will ask participants to share their tactual and kinesthetic materials by displaying them around the room along with any Multisensory Instructional Packages from the previous in-service sessions. Ample time will be given for participants to observe the work of others. The presenter will then conclude the materials sessions by stressing the application of these materials to the learning disabled student.

INSTRUCTIONS FOR ACTIVITY 2A: MATCHING INDIVIDUAL LEARNING  
STYLE CHARACTERISTICS WITH INSTRUCTIONAL PROGRAMS, METHODS,  
AND RESOURCES--MIKE HUGHES, A CASE STUDY.

The presenter will ask the participants for volunteers to play the following roles that appear in the case study: (a) Mike Hughes, a high school senior, (b) Mrs. Carr, a high school guidance counselor, and (c) Joe, the owner and manager of the auto shop where Mike works. The presenter will give each participant a copy of the case study and ask the role players to leave the room and prepare themselves. While the cast is out of the room the presenter will place the following assignment on the board or overhead projector and instruct the remaining participants to answer the questions after the role playing has been completed:

1. List the learning style elements that the case study reveals about Mike.
2. List the learning style elements that the case study did not clarify or about which you have doubts.
3. Name the methods that you would suggest for Mike's use.
4. List which programs might be most appropriate for Mike.

INSTRUCTIONS FOR ACTIVITY 2B: ROLE PLAYING.

The volunteers will reenter the room and carry out the role playing while the participants and the presenter observe, keeping in mind the questions to be answered at the end of the short scene.

INSTRUCTIONS FOR ACTIVITY 2C: FOLLOW UP.

After the role playing has been completed, the presenter will distribute the participant handout "Answers to the Case Study: Mike Hughes" and go over each one in detail reinforcing why each answer is valid. The presenter will discuss in detail how to match independent learning style characteristics with instructional programs, resources, and methods based on the needs of the student.

INSTRUCTIONS FOR ACTIVITY 3: GUEST SPEAKER.

The presenter will introduce the guest speaker and give a brief summary of the speakers credentials, background, and interest in learning style and learning disabled students. The topic of the speech will be "Learning Style Awareness" and will conclude the workshop by touching on all aspects of learning style and especially the implications and application of the Dunn and Dunn applied model of student learning style to the learning disabled student in the mainstream.

INSTRUCTIONS FOR ACTIVITY 4: CONCLUSION AND POST IN-SERVICE EVALUATION.

The presenter will conclude the workshop by reinforcing the remarks made by the guest speaker and extend thanks to the participants for their participation. The presenter will distribute the post in-service evaluation form (Appendix C) and instruct the participants in how to evaluate the in-service program.

## PARTICIPANT HANDOUT FOR ACTIVITY 2A, SESSION V.

A CASE STUDY: MIKE HUGHS

Mike Hughes leaned against the corridor wall, disgruntled and ill at ease. He was waiting for Mrs. Carr, the guidance counselor, to discuss his chances of being graduated in June. He anticipated the worst, for his grades throughout his high school career had been marginal at best, and he knew that being a learning disabled student was not helping either. He was failing two subjects, possibly three this semester.

Mrs. Carr's door opened and another senior emerged from the inner sanctum. Mike had been inside the guidance offices only once before, when he was a freshman and had trouble fitting his courses into a program where he could be free after fifth period each day so he could work after school. At that time he had seen another counselor who had urged him to give up his after-school job so that he could spend more time on his homework and perhaps do better. The counselor never thought to ask Mike why he worked or whether he could give up his job. At the time Mike had considered the suggestion, but only for a minute or two. He knew intuitively that the only place he had ever excelled was in the machine shop where he had worked since he was 11 or 12. He's been big for his age and had lied to Joe, the owner, when he first applied. Joe had given him a chance to work at the shop and had been delighted with the ease with which

Mike had learned and the skill he had demonstrated in repairing motors and parts. Joe called him a natural and overlooked the working papers he had not gotten around to getting. Now that Mike was close to graduation, Joe had offered him a full-time salary and a semi partnership. To Mike this was success.

Mike enters Mrs. Carr's office and begins pacing, unable to sit, until she has found the folder with his name on it. She explains that his record is poor and would like him to tell her why. He explains that teachers have made it impossible to learn term after term. He explains that all the way through school he had trouble learning what his teachers taught. No one ever tried to teach him in a way he could learn except Joe at the garage. Mike explains to the counselor that he wants to graduate with his class but feels something must be done to keep him from failing his academic subjects.



## PARTICIPANT HANDOUT FOR ACTIVITY 2C, SESSION V

"ANSWERS TO THE CASE STUDY: MIKE HUGHES"

- I. The learning style elements revealed by this case study suggest the following:
  1. Mike needs mobility (his feet shuffle, he cannot remain seated, and he shifts position).
  2. He is not auditory. Initially, he had done poorly academically, and most achieving students in a traditional school do learn by listening. Secondly, he requires repetition of verbalized statements and does not appear to understand questions that are posed to him. He is probably not visual to the text and that he can read well or enjoy reading, or he would have achieved through that medium. Since he is so successful at the repair shop, it is fairly safe to assume that he is tactual (learns by working with his hands), or tactual-visual (learns by seeing and doing) or kinesthetic (learns by being engaged in the activity).
  3. He is motivated to do things that he enjoys. He did well at the repair shop in spite of his youth and inexperience. He also wants to graduate and has tried to conform.
  4. He is persistent when involved with things that he enjoys.

5. He is responsible. He did see Mrs. Carr and tried to find out what ought to have been done. He also assumed a great deal of responsibility at the repair shop and was admired by his real peers (the other repairmen) Joe, and the customers.
6. He is self-oriented (when motivated), peer-oriented (at the shop with other repairmen), and authority-oriented (with Joe and his customers).
7. He could not do better in school and was therefore in a situation that he could not control--thus the evident frustration.

II. The learning style elements that the case study did not clearly include:

1. Whether he is affected by sound (although he learned to repair cars in a machine shop, which may be noisy).
2. Whether he is affected by light or temperature.
3. Whether his constant movement is a result of his need for mobility or a need for an informal design.
4. The extent to which he is capable of structuring his time and learning tasks. Apparently he can do so at the shop but may be unable to do so at school.
5. Whether he is in need of intake.
6. Whether the time of day affects him at all.

- III. Since Mike is a poor student academically, he probably would have profited from multisensory instructional packages supplemented by task cards, activity cards, and body-action games.
- IV. Although either a traditional or an individualized program that utilized instructional packages and the supplementary tactual-visual-kinesthetic resources would have been far more productive for him than the program in which he had been registered, the best solution for him would have been an alternative program where he would have worked in the repair shop part-time and engaged in regular studies at other times. In that way, he would not have been required to have competing interests and might have been able to blend the two better so that his school work might have improved.

Another consideration, of course, is that had Mike's teachers diagnosed his learning style and recognized that he needed different methods and resources in order to be successful academically, he might have been a very good student.

V. A special consideration in this case is that no one did anything to alter Mike's course in his regular classes. Had he been tested for learning style and alternative methods been used, or had someone worked with him to develop study skills and alternative resources, his high school life might have been more rewarding and gratifying than it was.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

This in-service program was designed to increase secondary teachers' understanding of how learning disabled students respond to learning style. The program was organized into five 2 hour weekly sessions in order to qualify participants for in-service credit offered through the curriculum development office in the Bremerton School District.

The format for the in-service sessions included (a) an agenda for participants (b) an outline guide for the presenter which included a terminal objective, instructional activities, and instructions for each activity. Pre and post in-service evaluation forms were included (Appendix B & C).

Content of the in-service program included: (a) characteristics of the learning disabled student, (b) a review of the learning style literature, (c) a discussion of the Dunn and Dunn (1979) applied model of student learning style, and (d) two materials development sessions.

### Conclusions

A need for in-service was determined through conducting interviews using prepared questions (Appendx A). The Superintendent, Curriculum Director, Supervisor of Special Education, High School Principal, two Vice-Principals, six regular, and four special education secondary teachers were interviewed. All strongly supported the need for an in-service program for secondary teachers which emphasized learning style and its application to learning disabled students in the mainstream was needed.

A review of the literature supported the need for increased teacher awareness of student preferred learning style. Dunn and Dunn (1978) pointed out that recent research concerned with identifying the relation between academic achievement and learning style has provided consistent support for the following:

(1) students do learn differently from each other; (2) student performances in differing subject areas are related to how individuals do learn; (3) where students are taught through the methods each prefers they do learn more effectively; and (4) systematic ways to identify individual preferences for learning and suggestions for teaching students with varing learning styles can be developed based on an individual diagnosis. (p. 389)

Ardi (1979) clearly expressed the need for awareness training of regular staff so that course content is more accessible to high school learning disabled students:

This area especially is a neglected one and requires consciousness raising to acquaint faculty with the nature of such problems and ways to provide for alternate learning styles while mainstreaming the integrity of the course requirements. (p. 25)

Glick (1981) stated that if learning disabled students are to be mainstreamed successfully, in-service must be offered to regular education staff members to identify and appropriate materials and strategies that can be used effectively with mainstreamed students. He suggested that teachers benefit from in-service in attitudes towards mainstreamed learning disabled students.

#### Recommendations

It is recommended that this in-service program be offered to Junior High School teachers as well as Elementary teachers. The materials development sessions could be modified to cover all age levels and subject areas. Additional sessions could be offered to include small group instruction techniques and how to redesign the educational environment for learning style.

It is further recommended that a follow up study be conducted after the in-service program is implemented to assess change in the participant's awareness, beliefs, attitudes, and success with learning style methods and materials.

REFERENCES



## REFERENCES

- Ardi, P. Access to higher education: mainstreaming. A paper presented at annual international convention, The Council for Exceptional Children, Dallas, Texas, April 1979.
- Barbe, W. Student learning modalities. Educational Leadership, 1981, 38, 378-380.
- Bursuk, L. Sensory mode of lesson presentation as a factor in the reading comprehension. A paper presented at New York University, 1979. (ERIC Document Reproduction Service No. ED 047-435)
- Carberry, H., & Waxman, B. An inservice workshop model for regular class teachers concerning mainstreaming of the learning disabled child. Journal of Learning Disabilities, 1981, 14, 26-28.
- Carbo, M. Keys to understanding the learning disabled. Learning Styles Network News Letter, 1981, 2, 5.
- Cavanaugh, D. Meeting the needs of individuals through their learning styles. National Association of Secondary School Principals, 1979, 11, 79-91.
- Cole, R., & Dunn, R. A new lease on life for education of the handicapped: Ohio copes with 94-142. Phi Delta Kappan, 1979, 59, 3-6, 10, 22.
- Davis, D., & Armistead, C. In-service education: Current trends in school policies and programs. New York, 1975.
- Dunn, R., & Cole, R. Inviting Malpractice through mainstreaming. Educational Leadership, 1981, 371-375.
- Dunn, R., & DeBello, T. Learning style researchers define differences differently. Educational Leadership, 1981, 371-375.
- Dunn, R., & Dunn, K. Teaching students through their individual learning style: A practical approach. Virginia, 1978.

- Dunn, R., & Dunn, K. Finding the best fit: Learning styles, teaching styles. National Association of Secondary School Principals, 1979, 37-49.
- Dunn, R., Dunn, K., & Price, G. Learning as a matter of style. The Journal of Education, 1979, 57-64.
- Dunn, R., Dunn, K., & Price, G. Learning Style Inventory and Manual. Kansas, 1981.
- Glick, H. Mainstreaming: An unmandated challenge. Educational Leadership, 1981, 326-329.
- Guild, P. Readings in learning style. Seattle Pacific University, 1981, 1-39.
- Harris, B. In service education: A guide to better practice. New Jersey, 1969.
- Hunt, D. Learning style and student needs: An introduction to conceptual level. In Student Learning Styles: Diagnosing and Prescribing Programs, Edited by James W. Keefe. National Association of Secondary School Principals, Virginia, 1979, 28-37.
- Keefe, J. Learning style: An overview. In Student Learning Styles: Diagnosing and Prescribing Programs. National Association of Secondary School Principals, Virginia, 1979, 1-39.
- Keough, B., & Morgulis, R. Training programs for children with learning disabilities: review of issues and research. Journal of Learning Disabilities, 1976, 4, 210-231.
- Kirby, D. Student learning styles: A diagnostic/prescriptive approach to instruction. Phi Delta Kappan, 1979, 3, 202-203.
- O'Rourke, M. Workshops for teachers. New York, 1969.
- Price, G. Summary of research on learning style based on the learning style inventory. American Educational Research Association, 1977.
- State of Washington rules and regulations for programs providing services to children with handicapping conditions. Chapter 391-171, 173 WAC Amended and adopted August 19, 1980, p. 18.
- Thompson, B. Tell me about: Learning styles. Ohio: Firestone and Associates (Filmstrip and cassette tape), 1980.

APPENDIX A  
NEEDS ASSESSMENT INTERVIEW QUESTIONS

APPENDIX A  
NEEDS ASSESSMENT INTERVIEW QUESTIONS

1. Do you feel there is a need for in-service training at the secondary level to make teachers aware of the needs of the learning disabled students in their mainstreamed classes? yes \_\_\_\_\_ no \_\_\_\_\_
2. Do you feel if an in-service program of this nature were given in the Bremerton School District it would be well attended? yes \_\_\_\_\_ no \_\_\_\_\_
3. Do you feel an in-service training program would be feasible in the near future in the Bremerton School District? yes \_\_\_\_\_ no \_\_\_\_\_
4. Do you feel participants would be more apt to attend an in-service training program if credit were offered? yes \_\_\_\_\_ no \_\_\_\_\_
5. Do you feel secondary teachers are well informed about the unique needs of learning disabled students? yes \_\_\_\_\_ no \_\_\_\_\_
6. Do you feel secondary teachers are aware of student learning style? yes \_\_\_\_\_ no \_\_\_\_\_
7. Do you feel that enough alternative ways of instruction are used to meet the needs of learning disabled students in regular classes? yes \_\_\_\_\_ no \_\_\_\_\_

APPENDIX B

PRE IN-SERVICE EVALUATION FORM



APPENDIX C

POST LEARNING STYLE IN-SERVICE EVALUATION





APPENDIX D

TABLE 1

## APPENDIX D

TABLE 1

| Stimuli       | Elements of Learning Style   |
|---------------|--|
| ENVIRONMENTAL | sound, light, temperature,<br>classroom design                                     |
| EMOTIONAL     | motivation, persistence,<br>responsibility, structure                              |
| SOCIOLOGICAL  | self, pair, team, authority,<br>varied   |
| PHYSICAL      | perceptual (auditory, visual<br>tactual, kinesthetic) intake,<br>time, mobility    |
| PSYCHOLOGICAL | analytic-global, reflective-<br>impulsive, field dependence,<br>field independence |

Source: Dunn, R., & Dunn, K. Teaching students through their individual learning styles: A practical approach. Virginia, 1979, p. 4.