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ABSTRACT

This document is a learning module developed for graduate level students in the field of teaching learning disabled children. The module consists of a pre-assessment, three element/activity groups, and a post-assessment. The terminal goal is the ability, given appropriate assessment data, to identify a child's modality strengths and weaknesses, and to plan a progression of learning experiences that serve to link the weak and strong modalities by building first upon the modality strength and culminating in a strengthening of the weak modality functioning. Suggestions for clarification, revision, and elaboration suggested by field-test data accompany the document. (MB)

TOWARD COMPETENCE

INSTRUCTIONAL MATERIALS FOR TEACHER EDUCATION

COMPETENCY BASED TEACHER EDUCATION PROJECT
THE CITY UNIVERSITY OF NEW YORK
315 PARK AVENUE SOUTH
NEW YORK , N.Y. 10010

MODALITY LINKING:

SELECTION OF ACTIVITIES AND MATERIALS

MARVIN STOBER
AND
WILEASE FIELDS

TEACHING RESOURCE CENTER

POST-ASSESSMENT CASE STUDIES BY
WINONA GREEN, TEACHING RESOURCE CENTER

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The opinions expressed herein do not necessarily reflect the position or policy of either the University of the State of New York or the United States Office of Education, and no official endorsement should be inferred.

It is as though man were looking at this external world through a net-work in which the size of the mesh corresponds to the characteristics of his senses....

Jean E. Charon
Man in Search of Himself

WHAT IS COMPETENCY-BASED TEACHER EDUCATION?

The set of materials you are about to begin using represents a new direction in teacher education. Called competency-based teacher education, this approach to training teachers emphasizes the teacher's performance--what he or she is actually able to do as the result of acquiring certain knowledge or skills.

Performance in a specific area is referred to as a competency. Thus, what we expect the teacher to be like after completing his education can be described in terms of the competencies he should have. The emphasis is on doing rather than on knowing, though performance is frequently the result of knowledge.

This shift in emphasis from knowing to doing accounts, to a great extent, for the differences you will notice in the format and content of these materials. To begin with, the set of materials itself is called a module because it is thought of as one part of an entire system of instruction. The focus has been narrowed to one competency or to a small group of closely related competencies. The ultimate aim of the module is expressed as a terminal objective, a statement describing what you, the teacher, should be able to do as a result of successfully completing this module.

Your final performance, however, can usually be broken down into a series of smaller, more specific objectives. As you achieve each of these, you are taking a step toward fulfilling the ultimate goal of the module. Each intermediate objective is the focus of a group of activities designed to enable you to reach that objective.

Together, the activities that make up each element, or part, of the module enable you to achieve the terminal objective.

There are several kinds of objectives, depending on what kind of performance is being demanded of you. For example, in a cognitive-based objective, the emphasis is on what you know. But since these are behavioral objectives, what you know can only be determined overtly. An objective can only be stated in terms of your behavior--what you can do. You might, for instance, be asked to demonstrate your knowledge of a subject by performing certain tasks, such as correctly completing arithmetic problems or matching words and definitions. In addition to cognitive-based objectives, there are performance-based objectives, where the criterion is your actual skill in carrying out a task; consequence-based objectives, for which your success in teaching something to someone else is measured; and exploratory objectives, which are open-ended, inviting you to investigate certain questions in an unstructured way.

Along with the assumption that the competencies, or behaviors, that make for successful teaching can be identified goes the assumption that these competencies can be assessed in some way. In fact, the statement of objectives and the development of assessment procedures form the main thrust of competency-based teacher education. The module, and the activities it contains or prescribes, is just a way of implementing the objectives.

But the module does have certain advantages as an instructional tool. For one thing, it enables you to work on your own and at your own pace. The activities are usually varied so that you can

select those which are best suited to your learning style. And the module enables you to cover certain subject areas with maximum efficiency; since if you pass the pre-assessment for a given objective, you are exempted from the module implementing that objective. What matters is not the amount of classroom time you put in on a subject but your ability to demonstrate certain competencies, or behaviors.

Overview

Which modality do you most efficiently utilize? When you attend a lecture do you prefer to take careful notes, listen attentively, summarize at the end, or talk about what you have heard over a cup of coffee? When you have difficulty understanding new subject matter material how do you cope? Do you read more slowly, sub-vocalize, read aloud, pace up and down, or draw diagrams? You may also be aware of problems you have when instructions are presented in a certain way. Have you ever felt frustrated when reading a set of directions, knowing that you won't readily understand how Section A, Section B, and Section C fit together until your fingers actually do the work?

If you are sensitive to these nuances in your ability to take in and understand information, you are already aware that a particular sensory approach may work best for you.

Have you ever applied this knowledge to your work with exceptional children? If you have, you may not need to work in this module. Take the pre-assessment to find out how well you apply these understandings. If you successfully complete the pre-assessment you may exit from the module.

If you have not selected and developed activities and materials considering the learner's most efficient use of modalities to receive, integrate, and express information you will probably need to go through the entire module. Take the pre-assessment first, though, to help you find out where your own strengths and weaknesses lie.

Before you enter the module you should understand that in

applying the concept of sensory modality functioning a few premises are in operation. First of all, for teaching to be effective the teacher must be able to identify the pupil's learning style. This includes an assessment of which sense modalities the learner uses most effectively and efficiently. This helps to comprise what is called a modality incorporation style. In addition, the teacher must be able to analyze instructional materials and activities presented to the learner to determine which modalities they call upon and the sequence of modality demands. Knowing the modality nature of an activity or material is the first step. Is the material primarily requiring the learner to utilize the visual, auditory, or tactile system? Which combinations are called upon? By combining materials or activity analysis with knowledge of modality incorporation style, the teacher can plan a progression of learning experiences which build first upon the child's modality strength while strengthening the child's modality weakness.

Prerequisites

In order to take this module, you should be a graduate student in the field of special education and should meet the following criteria:

1. you are familiar with general and special teaching methods and curricula and their application to special education resource materials
2. you have the ability to observe systematically and to assess diagnostically a child's developmental status
3. you can interpret diagnostic findings so that patterns

of strength and weakness can be determined.

If you are unsure whether or not you meet these prerequisites, you might find it profitable to take the pre-assessment anyway. The pre-assessment evaluation will help your instructor to direct you to certain readings in the areas you need to work on.

How to Take This Module

Now that you have read the overview and the prerequisites, you can decide whether you want to go ahead with this module. (You should think of the module as the equivalent of a six-week course.) If you continue, you will be asked to complete three basic steps. The first is a pre-assessment, which measures your ability to interpret assessment data and to prescribe on the basis of that interpretation. If you meet pre-determined criteria, you can exit after completing the pre-assessment. In other words, success on the pre-assessment indicates that you don't need this module.

However, don't regard lack of success on the pre-assessment as failure. It is simply an indication of the fact that you need the information and insights you will gain from taking this module. Before beginning the module you should do some reading in the areas of your greatest weakness. The Supplementary Reading List that begins on page 20 has selections for reading in nine different areas.

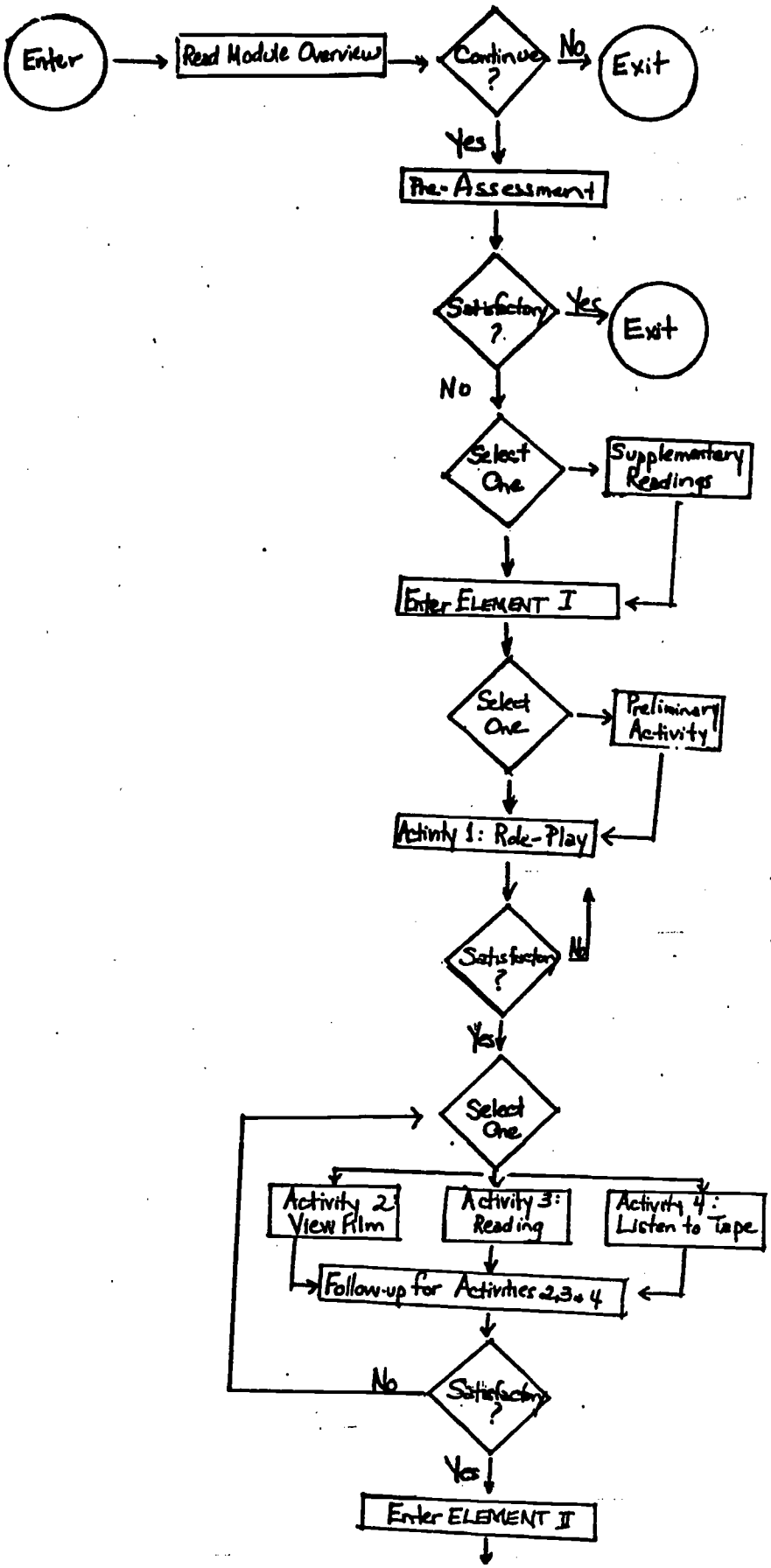
After you complete whatever reading you feel necessary, the next step is the completion of the three elements of this module. Each element consists of a variety of activities designed to enable you to achieve the objective of that element. Together, these

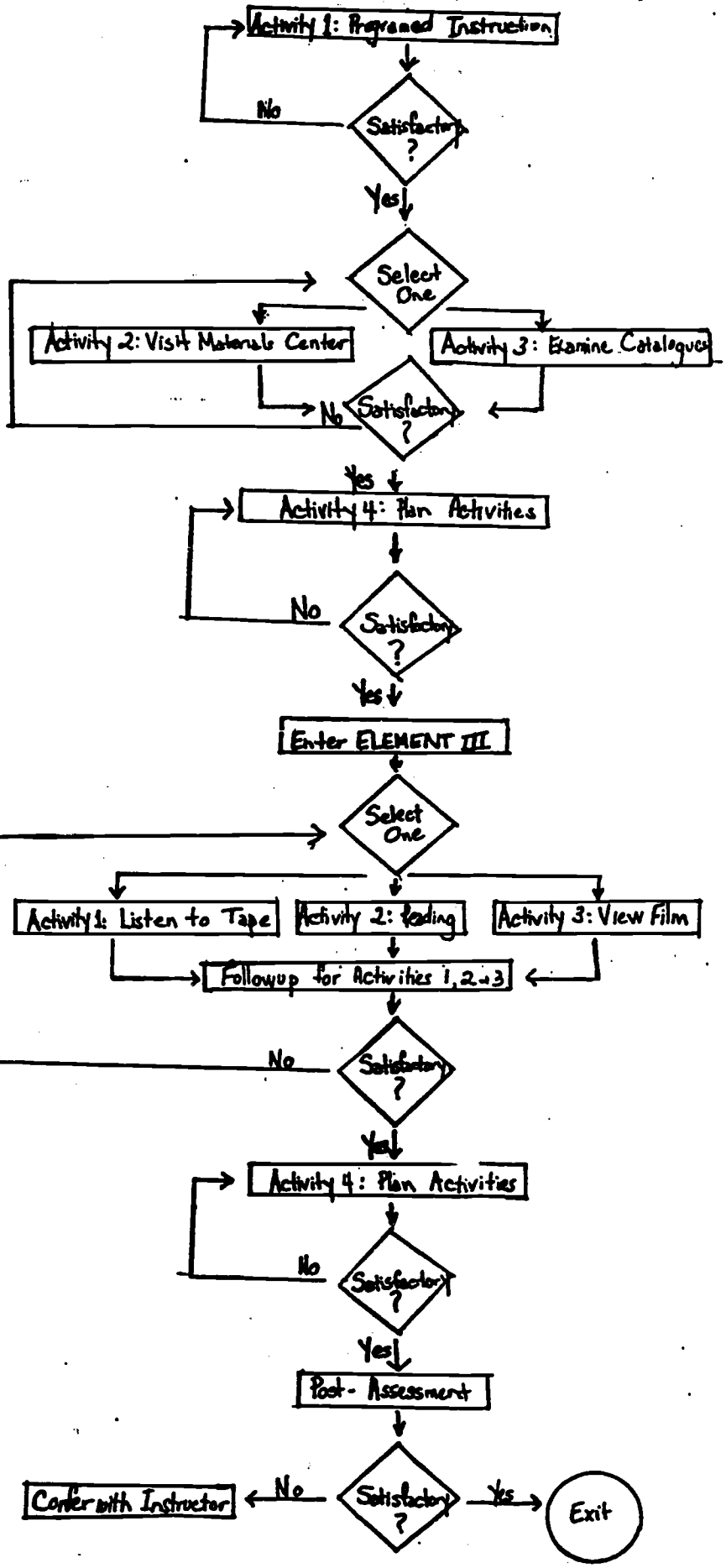
objectives make up the terminal objective of the module:

> Given the appropriate assessment data for a child, you will first, identify the child's modality strengths and weaknesses; then, plan a progression of learning experiences in a specific curriculum area which serve to link the assessed weak with strong modalities by building first upon the modality strength and culminating in a strengthening of the weak modality functioning.

At the end of each element you will demonstrate what you have learned by analyzing pre-existing materials, preparing your own materials, or planning activities for children with specified modality strengths and weaknesses. This demonstration will take place before a group of your peers, who will evaluate your demonstration. After a successful evaluation by your peers, you will check with your instructor before going on to the next element. When you have finished all three elements, you are ready for the post-assessment for the entire module. Upon successful completion of this post-assessment, you can exit from the module.

These steps are shown in graphic form in the flow chart on pages 8 and 9. Look at it before turning to the directions for the pre-assessment on page 10.


Enter
Read Module Overview
Continue ?
No
Exit
Yes
Pre-Assessment
Satisfactory ?
Yes
Exit
No
Select One
Supplementary Readings
Enter ELEMENT I
Select One
Preliminary Activity
Activity 1: Role-Play
Satisfactory ?
No
Yes
Select One
Activity 2: View Film
Activity 3: Reading
Activity 4: Listen to Tape
Follow-up for Activities 2, 3, 4
No
Satisfactory ?
Yes
Enter ELEMENT II


Activity 1: Programed Instruction
No
Satisfactory ?
Yes
Select One
Activity 2: Visit Materials Center
Activity 3: Examine Catalogues
No
Satisfactory ?
Yes
Activity 4: Plan Activities
No
Satisfactory ?
Yes
Enter ELEMENT III
Select One
Activity 1: Listen to Tape
Activity 2: Reading
Activity 3: View Film
Followup for Activities 1, 2, 3
No
Satisfactory ?
Yes
Activity 4: Plan Activities
No
Satisfactory ?
Yes
Post-Assessment
Confer with Instructor
No
Satisfactory ?
Yes
Exit

PRE-ASSESSMENT

The next few pages contain two hypothetical case histories, complete with a description of each child, test scores, and comments. Read the case histories carefully, study the test scores, then answer the following questions--as briefly as possible --about the two children:

1. On the basis of the information given, how would you characterize each child's problems? What are the strengths and weaknesses of each?

2. What information, test scores, and so forth, do you consider relevant in planning a program for each child? Why?

3. What additional information would you want in order to plan effectively for each child? Why?

4. Plan a program for one of the children based on the information you have been given that will take into account his various strengths and weaknesses.

When you have finished this pre-assessment, give it to your instructor for evaluation. If your instructor decides that you have successfully completed the pre-assessment, you may exit this module with full credit for this competency.

If you have not successfully completed the pre-assessment, you should go through the entire module. But before you do, we suggest that you consult with your instructor to find out where your own weaknesses lie. You can then turn to the Supplementary

Reading List that begins on page 20, find the area you need more background information in, and do some of the reading. The reading is not required and will not be evaluated, but it is recommended. After you have completed whatever reading you have chosen, turn to Element I (page 25) and begin the required activity.

CASE HISTORY #1

Background Information

Name: Gregory
Birthdate: 9-19-57

Test dates: 11-25-69
12-12-69

CA: 12-3

Grade: 6.3

Greg was referred for evaluation because of poor achievement in school as well as discipline problems at home.

Greg was adopted by his parents at age four months. When he was four years old he was ill with a high fever and experienced a series of three convulsions. His parents felt that his muscle coordination had been poor ever since. A medical report dated April 1967 suggested minimal subtle neurological impairment.

His school experience to date has been generally unhappy, both for Gregory and the school. His teachers consider him to be bright but unmotivated at work. At home there is a great amount of strain between Gregory and his parents. He appears to be discouraged, angry and rebellious. His self-concept is poor and he feels lonesome and rejected.

Test Information

W.I.S.C.

Verbal I.Q.	109
Performance I.Q.	79
Full Scale I.Q.	94

Verbal Scaled Scores		Performance Scaled Scores	
Information	9	Picture Completion	8
Comprehension	15	Picture Arrangement	10
Arithmetic	9	Block Design	5
Similarities	17	Object Assembly	4
Vocabulary	10	Coding	8
Digit Span	8		

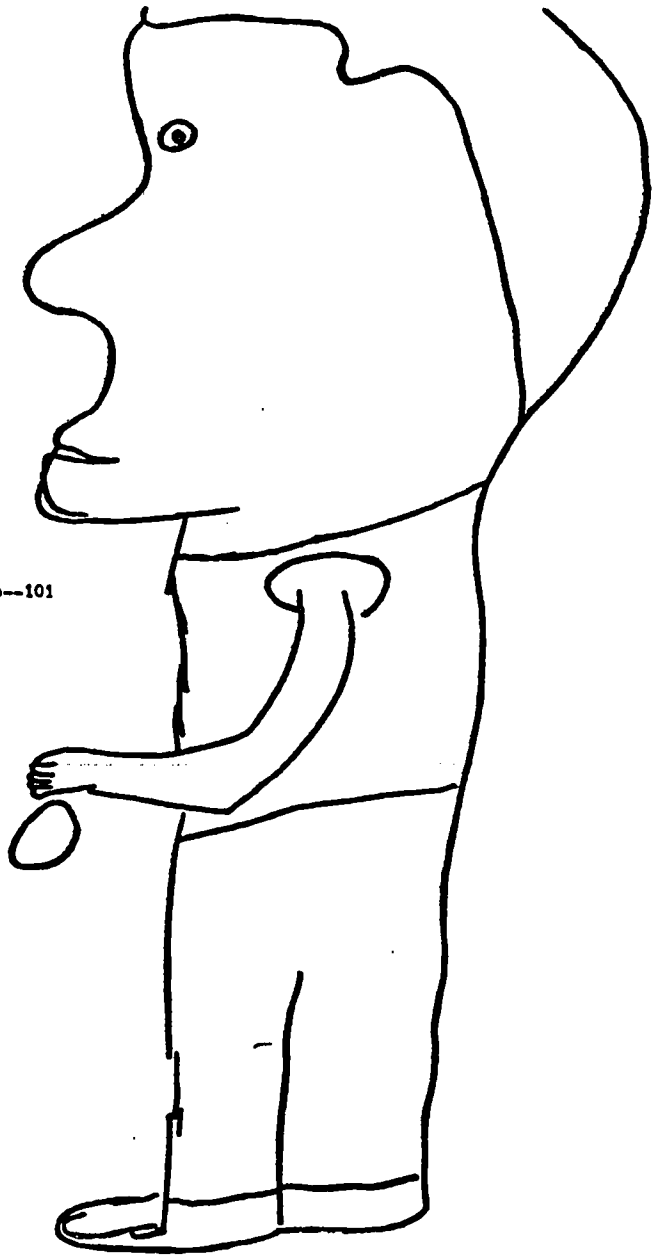
Goodenough Draw a Man Test — I.Q. 101 (Harris scoring)

Bender Visual Gestalt Test — 5 points on Koppitz System

CASE HISTORY #1(cont.)

Stanford Achievement Test - Int. II W Battery Form (Stanine scores)

Word Meaning	2	Arithmetic Computation	3
Paragraph Meaning	2	Arithmetic Concepts	5
Spelling	1	Arithmetic Application	2
Language	2	Social Studies	3
		Science	5



Standard Score--101

Harris--41

1	
2	54
3	55
4	63
6	64
9	66
10	68
11	72
14	
15	
16	
17	
18	
20	
24	
25	
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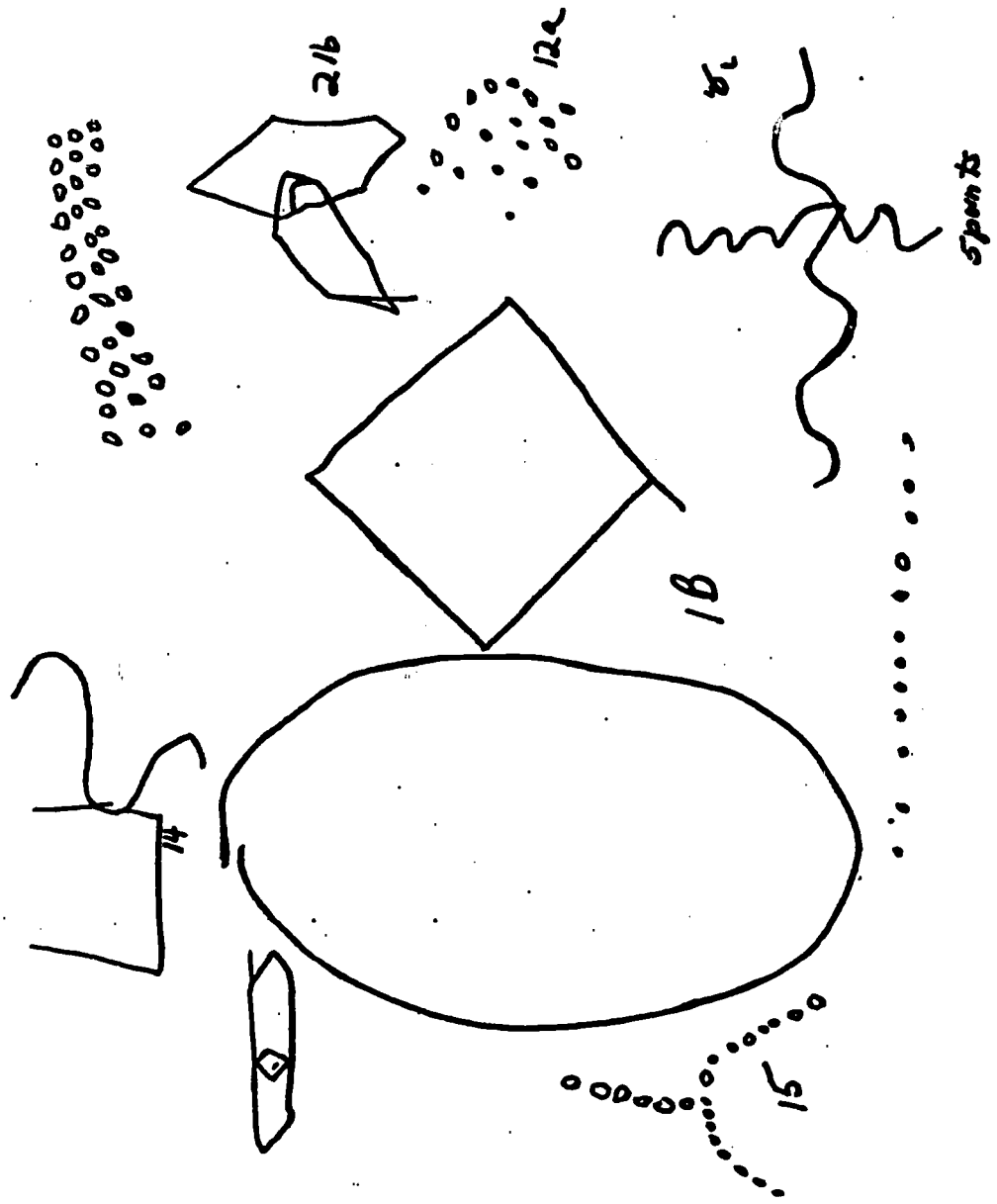
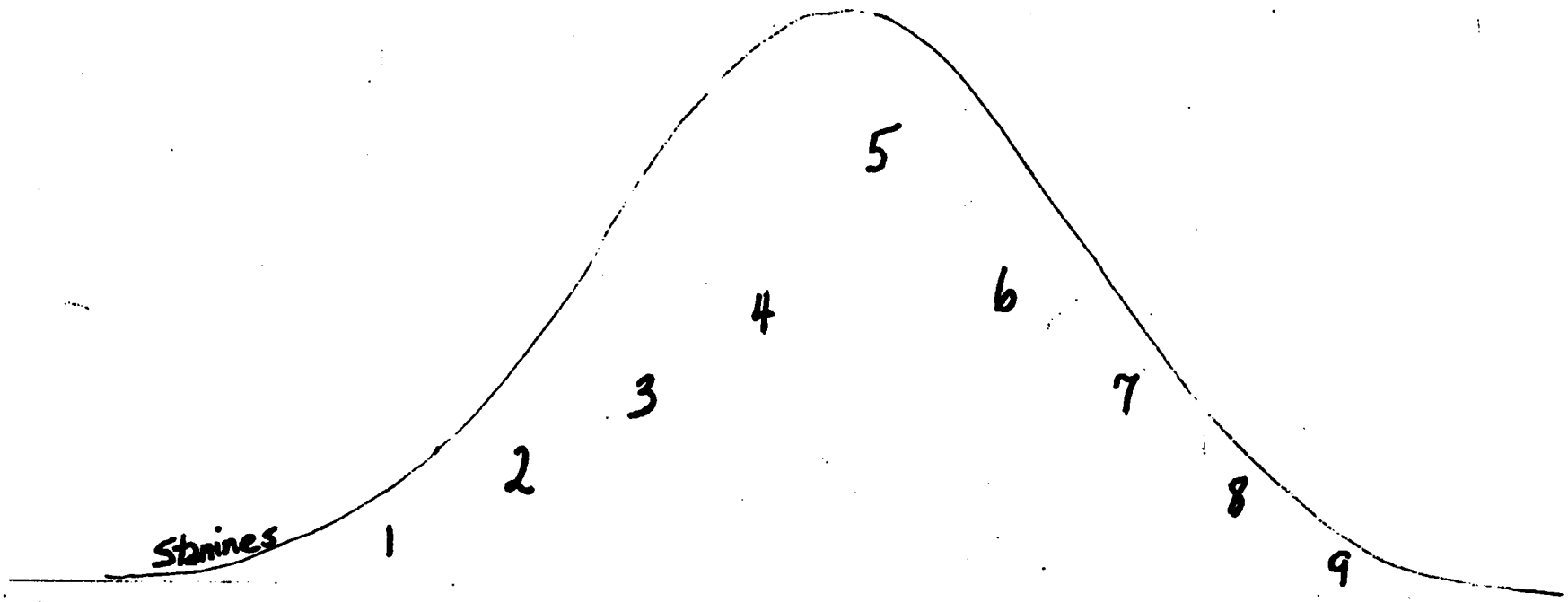
34	
35	
36	
39	
41	
42	
44 45 46	


21b
12a
17
5pants
18
14
15



Per Cent of Area or Per Cent of Cases	4	7	12	17	20	17	12	7	4
Approximate Range of Percentile Ranks	4 and below	5-11	12-23	24-40	41-60	61-77	78-89	90-96	97 and above

Test	Word Meaning	Paragraph Meaning	Spelling	Language	Arithmetic Computation	Arithmetic Concepts	Arithmetic Applications	Social Studies	Science
Stanine Score	2	2	1	2	3	5	2	3	5

Gregory	6	2 & 2	Stanford Achievement	Int. II	W	Oct '69
Pupil	Grade	School	Test	Battery	Form	Date Administered

Teaching Resource Center
The City University of New York 1971-72

CASE HISTORY #2
REFERRAL FORM

Resource Teacher _____

Date 3/29/73

Teacher's name Smith Class 2 Rm. No. _____

Child's name John Age 8

School _____

What concerns you about the child? Write a brief description of those factors which lead to your referral.

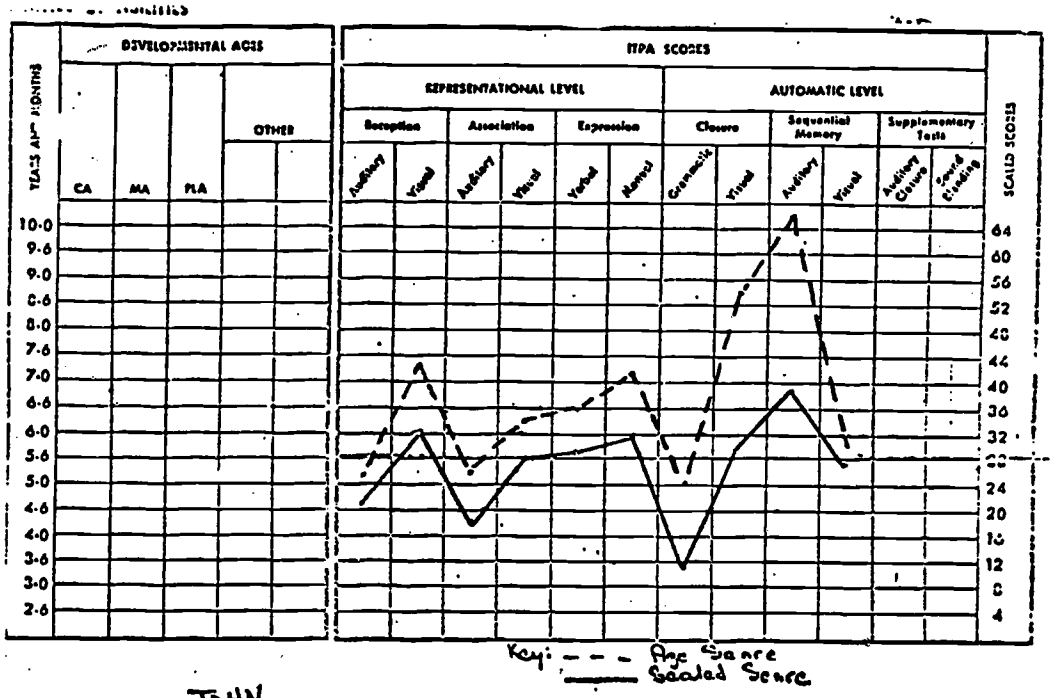
Academic: No progress in reading. Has just learned to count sets to 5, and combine sets with pictures. Can write most letters. Letters are reversed, omitted, or often scrambled when copying. Unable to retain letter names or sounds. No sight vocabulary.

Behavioral: Lazy, overweight. Does not interact well with classmates. Fights outside the class and on line. Sits quietly during class. Appears to do work although unable to do so. Draws very well.

What steps have you taken to help the child?

Individualized Instruction. Tried a kit for consonant sounds. No retention apparent. Only after holdover notice went home with report card has there been any effort to check on homework.

Mother is overprotective--feeds child, brings food to supplement school lunch. Does not permit child to go on class trips.



JOHN

Summary Sheet

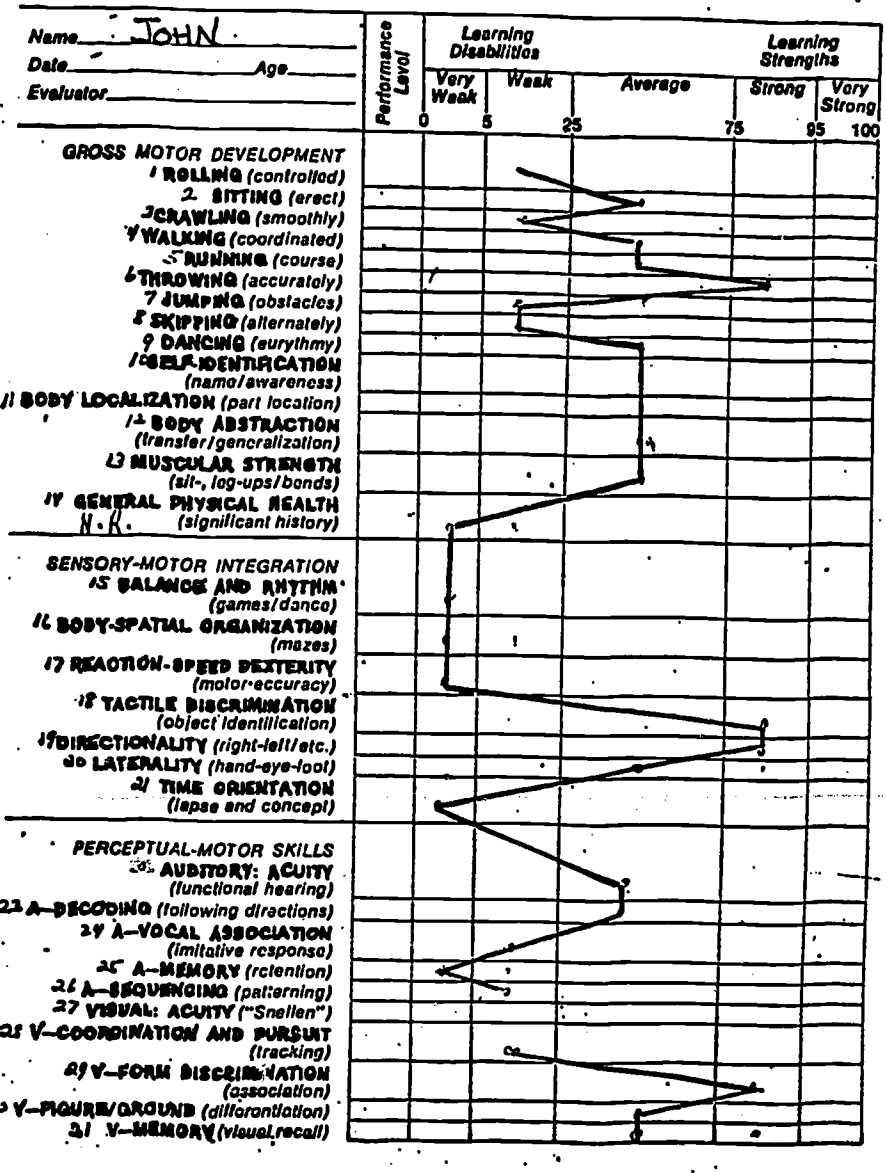
8-4

4-25

SUBTEST	REPRESENTATIONAL LEVEL						AUTOMATIC LEVEL					
	AUDITORY-VOCAL			VISUAL-MOTOR			AUDITORY-VOCAL			VISUAL-MOTOR		
	Raw Score	Age Score	Scaled Score	Raw Score	Age Score	Scaled Score	Raw Score	Age Score	Scaled Score	Raw Score	Age Score	Scaled Score
AUDITORY RECEPTION	20	5-2	21									
VISUAL RECEPTION				24	7-4	32						
VISUAL MEMORY										16	5-10	27
AUDITORY ASSOCIATION	17	5-3	18									
AUDITORY MEMORY							33	10-3	39			
VISUAL ASSOCIATION				21	6-3	28						
VISUAL CLOSURE										30	8-9	30
VERBAL EXPRESSION	24	6-6	29									
GRAMMATIC CLOSURE							11	5-0	11			
MANUAL EXPRESSION				24	7-2	32						
(Supplementary tests) AUDITORY CLOSURE												
SOUND BLENDING												

A PSYCHOEDUCATIONAL EVALUATION OF BASIC LEARNING ABILITIES

Name JOHN
Date _____ Age _____
Evaluator _____



Supplementary Reading List

I. The Nature and Interpretation of Statistical Data

A. Norms
B. Measure of Central Tendency & Variability
C. Interpretation of Scores and the Relationship between Scores
   1. Percentiles, Deciles, Quartiles, Percentages
   2. Standard Scores, Age, Grade & I.Q. Scores, Z-Scores, T-Scores
   3. Correlation, Standard Error of Measurement
D. Notes on Test Validity & Reliability

Read:

Bartz, Albert E. Basic Descriptive Statistics, 1971.

Gearheart, and Willenberg. Application of Pupil Assessment for the Special Education Teacher, 1970. Chapter 1.

Recommended:

Anastasi, Anne. Psychological Testing, Third Edition, London: McMillan, 1968. Chapters 1, 2, 3.

II. The Diagnostic-Teaching Process

A. Testing and Assessment
B. The Concept of Educability
C. The Clinical Teaching Cycle

Read:

Lerner, Janet. Children with Learning Disabilities, Boston: Houghton Mifflin, 1971. Chapters 4, 5; pp. 43-79.

Smith, R. Teacher Diagnosis of Educational Difficulties. Chapter 1.

Weiner, Bluma B. "A New Outlook on Assessment," The New Outlook for the Blind, March 1967.

Recommended:

Frierson, Edward C., and Barbe, Walter B. (ed.). Educating Children with Learning Disabilities.

McCarthy, James, and McCarthy, Joan. Learning Disabilities, Boston: Allyn and Bacon, Inc., 1970.

Newland, T.E. "Psychological Assessment of Exceptional Children and Youth," in Psychology of Exceptional Children and Youth. (3rd edition) W. M. Cruickshank (ed.), pp. 115-172. Englewood Cliffs, N.J., Prentice-Hall Inc., 1971.

Peter, L. Prescriptive Teaching. New York: McGraw-Hill, 1965.

Smith, R. Clinical Teaching Methods of Instruction for the Retarded. New York: McGraw-Hill, 1968.

III. Demonstration, Analysis, and Interpretation of Psychoeducational Tests and Measures.

Read:

Gearhart, B. R., and Willenberg, E. P. Application of Pupil Assessment Information for the Special Education Teacher. Chapters 2, 3, 4, 5, 6 7.

Valett, R. E. A Psychoeducational Inventory of Basic Learning Abilities.

Recommended:

Haeusserman, Else. Developmental Potential of Preschool Children, An Evaluation of Intellectual, Sensory and Emotional Functioning. New York: Grune & Stratton, 1958.

IV. Assessment of Intelligence

Read:

Smith, R. Teacher Diagnosis of Educational Difficulties. Chapter 2.

Recommended:

Anastasi, Anne. Psychological Testing, Third Edition, Part II: Tests of General Intellectual Development, pp. 187-314.

Anastasi, Anne. "Psychology, Psychologists and Psychological Testing," Readings in Measurement and Evaluation, N. E. Gronlund (ed.). New York: MacMillan, 1968, pp. 436-453.

Glasser, and Zimmerman. Clinical Interpretation of the Wechsler Intelligence Scale for Children. New York: Grune & Stratton, 1967.

Waugh, K. and Bush, W. Diagnosing Learning Disorders. Columbus, Ohio: Charles Merrill, 1971. Chapters 2, 3.

V. Assessment of Perceptual and Conceptual Functions

Read:

Anastasi, A. Psychological Testing. 3rd Edition, Chapter 12, pp. 301-315.

Smith, R. M. Teacher Diagnosis of Educational Difficulties, Chapter 3.

Recommended:

Birch, H. (ed.). Brain Damage in Children--The Biological and Social Aspects. New York: Williams & Wilkins Co., Chapter 3, Diller & Birch, pp. 27-45.

Bortner, Morton (ed.). Evaluation and Education of Children with Brain Damage. Springfield, Illinois: Charles Thomas, 1968. Part One: "Evaluation," pp. 15-127.

Frostig, M., Lefever, D. W., and Whittlesey, J. "A Developmental Test of Visual Perception for Evaluating Normal and Neurologically Handicapped Children, " Perceptual Motor Skills, 1961. pp. 12, 383-389.

Frostig, M., Lefever, D. W., and Whittlesey, J. "Visual Perception in the Brain-Injured Child," Amer. J. Orthopsychiatry, 1963. pp. 33, 665-671.

Harris, Dale B. Children's Drawings as Measures of Intellectual Maturity. New York: Harcourt Brace Jovanovich, 1963.

Kephart, N. The Slow Learner in the Classroom. Columbus, Ohio: Charles E. Merrill Books, 1960. Part II, pp. 120-157.

Koppitz, E. The Bender Gestalt Test for Young Children. New York: Grune & Stratton, 1964.

Koppitz, E. Psychological Evaluation of Children's Human Figure Drawings. New York: Grune & Stratton.

Roach, E., and Kephart, N. The Purdue Perceptual-Motor Survey Scale. Columbus, Ohio: Charles E. Merrill, 1966.

VI. Assessment of Language Function

Read:

Kirk, S., and Kirk, W. Psycholinguistic Learning Disabilities. Urbana, Illinois: University of Illinois Press, 1971. Chapters 1, 2, 3, 4, 5, 6, 7.

Smith, R. Teacher Diagnosis of Educational Difficulties, Chapter 6.

Recommended:

Dunn, L. M. Peabody Picture Vocabulary Test. Circle Pines, Minnesota: American Guidance Services, Inc.

Slingerland, B. H. Screening Tests for Identifying Children with Specific Language Disability, Revised Edition. Cambridge, Mass.: Educators Publishing Service, Inc., 1969.

VII. Assessment of Reading, Spelling and Arithmetic

Read:

Smith, R. Teacher Diagnosis of Educational Difficulties, Chapters 4, 5, 7.

Recommended:

Della-Piana, G. M. Reading Diagnosis and Prescription. New York: Holt, Rinehart and Winston, 1968.

Frierson and Barbe (ed.). Educating Children with Learning Disabilities, 1967.

Lerner, J. W. Children with Learning Disabilities, 1971.

Myers, P., and Hammill, D. Methods for Learning Disorders. New York: John Wiley, 1969.

Smith, R. Clinical Teaching Methods of Instruction for the Retarded. New York: McGraw-Hill, 1968.

VIII. Personality Tests and Tests of Social Development

Read:

Anastasi, A. Psychological Testing, Chapter 19.

Smith, R. M. Teacher Diagnosis of Educational Difficulties, Chapter 8.

Recommended:

Doll, E. A. Vineland Social Maturity Scale. Circle Pines, Minnesota: American Guidance Services, 1965.

Rabin, A., and Haworth, M. (ed.). Projective Techniques with Children. New York: Grune & Stratton, 1960.

IX. Teacher Assessment and Individualized Instruction

Read:

Kirk, S., and Kirk, W. Psycholinguistic Learning Disabilities. Urbana, Illinois: University of Illinois Press, 1971. Chapters 8, 9.

Recommended:

Bush, Wilma, and Giles, Marian Taylor. Aids to Psycholinguistic Teaching. Columbus, Ohio: Charles Merrill, 1968.

Hewett, Frank M. The Emotionally Disturbed Child in the Classroom. Boston: Allyn and Bacon, 1968.

Lerner, Janet W. Children with Learning Disabilities. New York: Houghton Mifflin, 1971.

Meyer, Edward, Vergason, Glenn, and Whelan, Richard. Strategies for Teaching Exceptional Children. Denver: Love Publishing Co., 1972.

Valett, Robert. The Remediation of Learning Disabilities. A Handbook of Psychoeducational Resource Programs. Palo Alto: Fearon Publishing Co., 1967.

Valett, Robert. Programming Learning Disabilities. Palo Alto: Fearon Publishing Co., 1969.

Van Witsen, Betty. Perceptional Training Activities Handbook. New York: Teachers College Press, 1967.

ELEMENT I

Objective:

When presented with specific tasks and materials, you will demonstrate your ability to

1) identify the modality components utilized and
2) classify materials and tasks according to these components.

In order to achieve this objective you must do three things: First, you must complete Activity 1, a role-playing activity which introduces you to the notion of sense modalities. Next comes a group of three alternate activities of which you are to do one. (You may do more than one if you want, and you may also--with your instructor's approval--substitute an activity of your own devising for any of the activities.) The final activity in this element involves preparing and presenting a set of materials developed to emphasize a specific modality. This last activity is a follow-up activity that lets you know if you have attained the objective for this element.

Before you begin this element, however, you might want to use the following preliminary activity to set the mood for the work you will be doing in this and in the other elements of this module.

Preliminary Activity

For this activity you will need to work with a fairly large group of peers--about 5 to 10. You will also need access to audio-visual equipment and the audio-visual library.

First, go to the audio-visual library with your group and choose a sound-filmstrip. It can be on any subject that you find interesting but about which you know very little. Then arrange to view the filmstrip twice. The first time listen only to the sound and don't view the filmstrip. The second time, look at the filmstrip with the sound. Then discuss the differences between the two presentations. What details were missing from an auditory presentation alone? Which of you felt more comfortable when the visual was presented along with the auditory? And so on.

If you have the time and the group agrees, you might want to choose another filmstrip--again on a topic that most of the group is interested in but knows only a little about. Then reverse the process, this time beginning with the visual without the sound, then seeing both together.

If you have a large enough group, this exercise will probably reveal that for some people the auditory mode is stronger and for others the visual mode is stronger as a learning vehicle.

After the final discussion of the differences in the two types of presentations, turn to the next page and begin required Activity 1.

Activity 1

This activity involves the performing and analyzing of set role-play situations. Each role-play calls for at least one person to act as "teacher" and from one to four persons to act as "children." Since there are four suggested situations listed below, your instructor may decide to divide the whole class into four groups, each doing one role-play or, if the class number is small, two groups could do two each. In any case, one group performs the role-play and another group observes, then the second performs a role-play and the first observes. Immediately following each separate role-play set aside a time for discussion of the following questions:

1. At what point in the activity was the "child" cueing into the activity visually? How did you know?
2. At what point in the activity was the child listening? How did you know?
3. How much did the child depend on listening and the visual modalities to complete the activity? How did you know?
4. At what point did the child use the sense of touch to help achieve the objective of the activity? How did you know?
5. At what point did muscle movement come into play? How did you know?
6. What was the sequence of the modalities used in the activity?

7. How did the materials in the activities elicit use of certain modalities?

The participation of both performers and observers in the discussion ensures that immediate feedback will be available for each question and answer.

The following role-play situations are suggested for this activity. You may, of course, substitute ones of your own devising after checking their appropriateness with your instructor.

Role-Play Situation 1

Participants: 1 teacher, 2 children
Materials: Drum for teacher, Drum for each child

With the children facing her, the teacher plays a specific rhythmic pattern on the drum. Children look, listen and individually attempt to repeat the pattern. With the children's backs to her the teacher plays the same rhythmic pattern and has each child repeat the pattern individually.

Role-Play Situation 2

Participants: 1 teacher, 1 child
Materials: Collection of buttons or beads

Teacher makes a pattern from a variety of beads or buttons. The child looks for a few seconds. The teacher rearranges the pattern and the child then attempts to make the original pattern.

Role-Play Situation 3

Participants: 1 teacher, 2 children
Materials: None

The teacher verbally presents a sequence of numbers such as:

123; 1234; 6532; 2345, etc. or 30, 50, 60--60, 10, 60

The child listens and attempts to repeat each number sequence individually.

The same procedure can be used for a series of words. For example:

boy, cat, dog--dog, cat, boy or run, hop, skip--skip, hop, run.

Role-Play Situation 4

Participants: 1 teacher, 4 children
Materials: None

"Charades"

Have children act-out situations, such as, Flying like a bird, Climbing a fence, Instructing a Class, Driving a car, Packing a bag for a trip, and Playing baseball (pitcher, batter, catcher).

When you have complete all the role-plays and finished discussing them, you may go on to the next group of activities--of which you are to choose one.

The next three activities--Activities 2, 3, and 4--offer you alternate ways of obtaining the necessary skill to reach the objective for this element. One of the activities utilizes the visual modality, one the auditory, and one utilizes both. Since each of the elements in a module offers alternate activities, you might want to choose your strongest modality for this element and then your next strongest for the next element and so on. You don't have to follow this suggestion, of course, to acquire the skills taught here, but you might want to try different modalities not only for the sake of variety but also to give you a further insight into the importance of understanding modality strengths and weaknesses.

Activity 2

Obtain and view--alone or with others--at least one of the films listed on pages 31-32. You may, of course, view more than one or the class may decide to divide into groups with each group viewing a different film. (Note: You will also need a 16 mm. film projector as well as the film.)

As you view the film, observe the following:

a) the activities or techniques being demonstrated for use with children,

b) the materials being demonstrated for use with children,

c) the sense modalities being utilized through the use of materials.

Record your observations on the Sense Modalities Worksheet on page 33.

When the viewing is completed, you should meet with fellow students who chose this activity, to discuss the content of the films you saw. Use your Sense Modalities Worksheet to help you describe the film that you viewed. Others who saw the same film will serve as positive or negative feedback for you. If there are many differences of opinion among those who saw the same film, you may see the film again, in a group, and try to arrive at a consensus that way. If that proves unsatisfactory, ask your instructor's advice.

When the final discussion is over and the group feels that it has a good grasp of the contents of the films, you may proceed to the follow-up on page 36.

Film List

I. HELP....Techniques for Remedial Reading
(To be shown in sequence) Also available on video-tape.

1. Auditory Perception 37 min. b/w sound

Introduces three students and gives brief diagnostic statement of learning problems. Shows the use of Language Masters and other remedial techniques with a child. Miss Muriel Garten explains in detail her philosophy of instruction.

2. Word Analysis Skills 38 min. b/w sound

Learning patterns are described and related to an independent study activity and auditory techniques are shown.

3. Visual Perception 32 min. b/w sound

Shows the administration of the Botel Reading Inventory and activities used to improve visual memory. Demonstrates the effective use of media as an integral part of a lesson to help a student achieve a stated goal.

Source: New York State Education Department
Division for Handicapped Children
Special Educational Instructional Materials Center

II. THE SHAPE OF A LEAF 26 min. color & b/w sound.

This film shows the training of retarded children, ages 7-19, in grades K-8, through the use of painting, conversation relating to art, creative stitching, weaving, batik, ceramics and pupppet shows. An unrehearsed description of the work they are doing conveys their complete absorption in the training and excitement of self-discovery. Filmed at the Perkins School for the Retarded in Lancaster, Mass.

Source: Campbell Films
Academy Avenue
Saxton River, Vermont 05154

III. AIDS FOR TEACHING THE MENTALLY RETARDED - Phase B - Initial Perceptual Training 7 min. color/sound

Exercises involving various sensory areas are provided to help improve perceptual skills. In matching cards, nuts and bolts, sound and weight boxes, the child learns to discriminate with

respect to sight, touch, weight and sound. As he arranges colored nails on a painted board or aligns the movable discs of a pattern column, the student develops manual dexterity and improves hand-eye coordination.

Source: Thorne Films, Inc.
229 University Avenue
Boulder, Colorado 80301

IV. WHY BILLY COULDN'T LEARN 35 min. color/sound

Demonstrates teaching techniques used in the classroom of the educationally handicapped child. Perceptual and motor handicaps of children are shown and compared to normal reactions and responses in slow motion.

Source: CANHC Movie Distributors
20 E. 46th Street
New York, New York 10017

Sense Modalities Worksheet

Briefly record Activities, Materials and related Sense Modalities utilized in film.

Title of Film:

Sense Modalities	Activities	Materials

Activity 3

Turn to the Appendix and read the selection that starts on page 70. As you read, keep the following points in mind:

1. The author is using the ITPA as the framework for discussion of various disabilities. If you are not familiar with ITPA, borrow a set from the Materials Center near you and read it through, then refer to it as you go through the list of learning disabilities.
2. The author has focused on learning disabilities, rather than on learning strengths. After you have read the list using the ITPA as reference, go over it once again. This time think how a child would give evidence to a teacher or a tester of a specific learning strength.

When you're finished, turn to the follow-up on page 36 for a check on your comprehension of the reading material.

Activity 4

Obtain audio cassette A, Modality Characteristics of Activities and Materials, and a cassette player. Listen to the presentation on the cassette as many times as you feel necessary in order to understand the material. Take notes if you like. As you listen, think about the following questions:

1. Why is it so important to understand and identify a learner's modality incorporation style?
2. Why should the teacher of the learning child make an effort to determine as soon as possible where the child's strengths are and where his weaknesses are?
3. List a few activities that are suitable for a child whose learning strengths lie in the auditory modality.

When you have finished, turn to the follow-up on page 36 for a check on your comprehension of this presentation.

Follow-up for Activities 2, 3, and 4

Pick one modality that you want to work with and think of it as a child's modality strength. Your task is to create a series of activities using self-made or pre-existing materials that will teach to this strength in a particular curriculum area.

Make a presentation of your materials and your activities to a group of three to five other students who are taking this module. Analyze each activity and material in terms of its usefulness in the specified curriculum area and demonstrate how the activities and materials utilize the particular modality strength you have chosen.

If the group agrees that your selection of materials and activities seems consistent with the modality strength you have chosen, you may, with your instructor's approval, proceed to Element II. If your selection of activities and materials is not satisfactory--to the group or to your instructor--choose another alternate activity in this element and repeat the follow-up. If you fail to develop a satisfactory set of activities and materials the second time, confer with your instructor about what your next step should be.

ELEMENT II

Objective: When given specific modality requirements, you will demonstrate your ability to select a series of activities and materials that meet those requirements.

There are three steps in achieving this objective. For the first, you are required to complete a section of programmed instruction that will introduce you to the input and output modes of some instructional materials. For the second, you are to complete one of two alternate activities -- Activity 2 or Activity 3. For the last step, you are required to complete Activity 4.

Are you ready to begin? Remember that the first and last activities are required, while you have a choice between Activities 2 and 3. You may also -- with your instructor's approval -- substitute an activity of your own devising for any of the activities in this element.

Activity 1

Read the following pages from Programmed Workbook for Analysis of Educational Resources* and answer the questions as indicated. Note that you will be able to check your responses yourself. If you have trouble answering the questions, reread the material, then try the questions again. When you can answer all the questions correctly, go on to either Activity 2 or Activity 3. (Remember, you can do one or the other of these activities, or both if you like.)

INPUT MODE

This area explains the sensory channel through which the learner receives information from the material. Input mode is directly related to format in that a material design which presents the information through sound, such as a record or tape, would require the learner to take in the information auditorially -- auditory input. Do not confuse input with output or response mode. Distinguish in your mind which is which.

In retrieval, the type of input mode and consequently the format selected would be influenced by anydiagnosed strengths or weaknesses

*Reprinted courtesy of the Midwestern Educational Resource Center, Carolyn Rude, Technology Coordinator, 114 Second Avenue, Coralville, Iowa 52241.

the learner displays in his sensory channels. In analysis, you should state the one or more sensory channels the learner would need to use to obtain the information from the material.

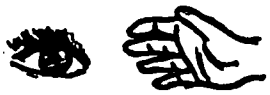
State the term and code number as shown below.

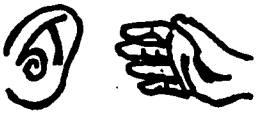
1. Auditory 

2. Visual 

3. Tactile  (tactile, haptic, kinesthetic)

4. Auditory-Visual  (simultaneous)

5. Visual-Tactile  (simultaneous)

6. Auditory-Tactile  (simultaneous)

In the analysis of a material in which the <u>input</u> to the <u>learner</u> comes from the <u>teacher</u> rather than directly from the material, code the type of <u>input mode</u> used to receive this information. For instance, the book <u>Sound Talk</u> should give the learner visual input. However, in reading the directions, you find that the teacher presents all information verbally, giving auditory input to the learner. The learner never sees the book so does not receive any visual input. The input mode is coded as auditory. In this case the input mode and format type do not agree. The input mode here

correlates more closely with teacher/learner interaction; it is teacher-directed. Remember again, though, to code this area as the material was designed to be used and without adaptation.

When more than one input mode is used, but not simultaneously, state both separately with both numbers.

EXAMPLE:

No. 7533 Vowel Sounds/A Self-Instructional Modalities Approach

A unique, triple impression program to provide auditory, visual and kinesthetic perception of vowels and vowel-consonant combinations. Student hears vowel sounds, sees vowels in word context, and manipulates teaching aids to form meaningful words. Vowel development is achieved in two ways. Vowel sounds are presented with emphasis on isolated sounds of the letter in word settings. Vowels are also presented as they combine with consonants to form phonemes. Vowel consonant combinations are further reinforced as the child writes them on the response sheet.

Program consists of ten pre-recorded lessons on cassette tapes; each lesson is approximately fifteen minutes in length. Five student manipulatives are included; each is used with two lessons. Student response sheets record the pupil's progress through each lesson. Components are five cassette tapes, five manipulative devices, and ten packs of 72 response sheets.

Input Mode: Auditory - Visual (4)

The next page contains questions which can be answered from the information you have just read.

INPUT MODE - Questions

Answer with the correct term and number, as shown on page 39

1. "The student, therefore, is able to read, hear, and see the appropriate symbols, sounds, and sights which represent things, actions, and concepts in his daily life" as presented on the audio cards.

   Input Mode: _____

2. Kinesthetic Trace - The Letter Cards has 30 black flocked alphabet cards. Arrows indicate the direction of stroke.

   Input Mode: _____

3. Musical Multiplication presents drill on the basic facts through a record format.

   Input Mode: _____

4. Homonym Poster Cards has 30 large white cards, with 60 pairs of words.

   Input Mode: _____

Answers to these questions on next page.

INPUT MODE - Answers

1. Auditory - Visual (4)

2. Tactile, Visual, Visual-Tactile (2,3,5)

3. Auditory (1)

4. Visual (2)

Continue to next section.

OUTPUT MODE

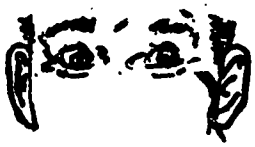
This section describes the expressive channel through which the learner responds to the information presented in the material. His expression of a response indicates that he has received the information, has performed the mental processes necessary, and has mentally formulated a response which he can output through a channel or mode. This output is his physical response, which we see as called for by the material. The format type is related to the type of response the learner makes.

Types of output mode to record are:

1. Verbal

The response is spoken.

2. Nonverbal



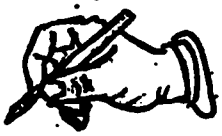
The learner does one of these things:

look, listen

manipulate, work with hands

move, trace - move an object or trace with finger or pencil

mark, circle, color, cut



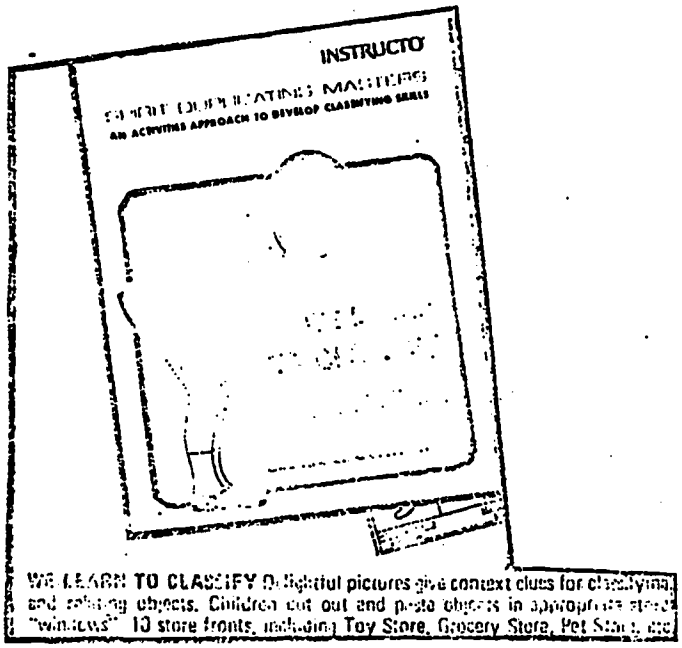
print, write

no specific response required.

In analysis, indicate first whether the output mode is verbal or nonverbal. If it is nonverbal, write in the type of response indicated, using the terms and code numbers on page 43

If the appropriate term is not listed, add the needed term to your analysis.

EXAMPLE:



Output Mode:

Nonverbal - cut, manipulate (2)

The next page contains questions which can be answered from the information you have just read.

OUTPUT MODE - Questions

Write the term and code number from page 43 which match best.

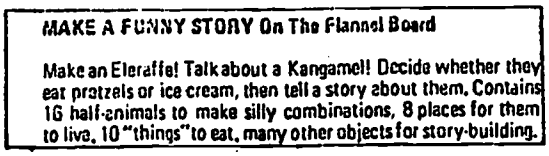
1. In What Comes First? Next? Last?, children build stories by coloring or cutting and pasting illustrations in sequence.

   Output Mode: _____

2. My Workbook is Arithmetic has self-teaching and self-testing problems and exercises for the child to work at at his own speed.

   Output Mode: _____

3.



   Output Mode: _____

Answers to these questions on next page.

OUTPUT MODE - Answers

1. Nonverbal - color, cut, manipulate (2)

2. Nonverbal - write (2)

3. Verbal, nonverbal - move (1,2)

Activity 2

Arrange with your instructor and/or a small group of students who are also taking this module to visit a local materials center, such as a University Curriculum Materials Center or a Special Education Instructional Materials Center. Make sure ahead of time that you will be able to meet with a resource person at the center and that you will have access to the instructional materials library.

Your visit should begin with an orientation session given by the Center's resource person and an introduction to the organization and content of the materials library. Following the orientation, spend some time looking through the materials in the library, keeping in mind what modality or modalities each piece of material is designed to make use of.

Then select five to eight pieces of material to evaluate. For each one, record in writing or on tape the following information:

1. a general description of the piece of material
2. the primary modality the material utilizes
3. several suggested activities for use of the material

After your visit to the Center, present your evaluation of one of the pieces of material to a group of three to five other students. (If possible, bring back the piece of material from the Center and demonstrate its use as well.)

If the group agrees that you have succeeded in matching material and modality and in suggesting appropriate activities, you may go on to Activity 4. If your evaluation of the material is not

satisfactory, either repeat this activity or do Activity 3 instead. If you fail to complete the activity successfully a second time, confer with your instructor about what your next step should be.

Activity 3

Following this page are some samples from commercial supply catalogues. Look through them, reading the annotations carefully and noting what modality or modalities each item is designed to make use of. If you have access to either school district or commercial supply catalogues, you can look through one or more of these in addition to or instead of the following samples.

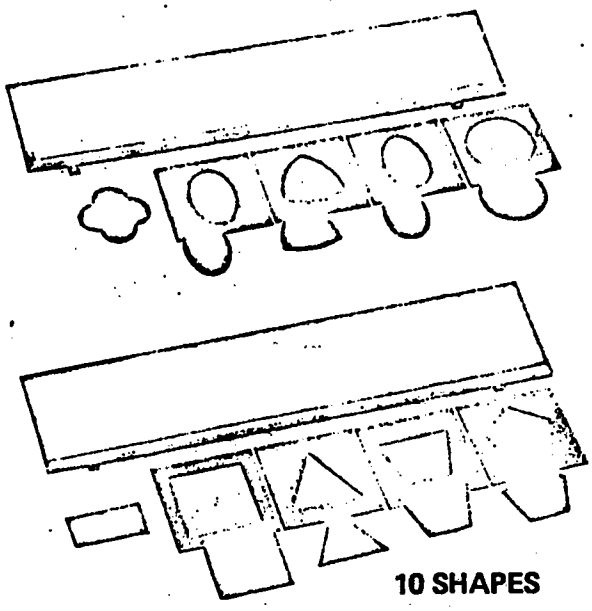
Then select five to eight items to evaluate. For each one, record in writing or on tape the following information:

1. a general description of the item
2. the primary modality utilized
3. several suggested activities for use of the item

As a follow-up, present your evaluation of one of the catalogue items to a group of three to five other students who are also taking this module.

If the group agrees that you have succeeded in identifying the modality utilized by that particular item and in suggesting appropriate activities, you may go on to Activity 4. If your evaluation is not satisfactory, either repeat this activity or do Activity 2 instead. If you fail to complete the activity successfully a second time, confer with your instructor about what your next step should be.

1. **10 STEEL SETS OF PAINTED INSETS**



Set of ten insets and two sloping stands, each holding one inset frame. Notice the dark blue stand showing through the frame producing the exact inset design to be matched.

2. **46 METAL INSETS**

An excellent tool for the development of writing skills. Consists of ten metal frames and insets in sizes and shapes illustrated above. As the child guides a pencil around the various shapes, the small muscles of his fingers develop the necessary strength and dexterity for writing. We recommend the purchase of two No. 47 sloping stands for each set of 10 metal frames and inserts. Helps develop sense of design; provides guide line for control of pencil; strengthens chromatic sense.

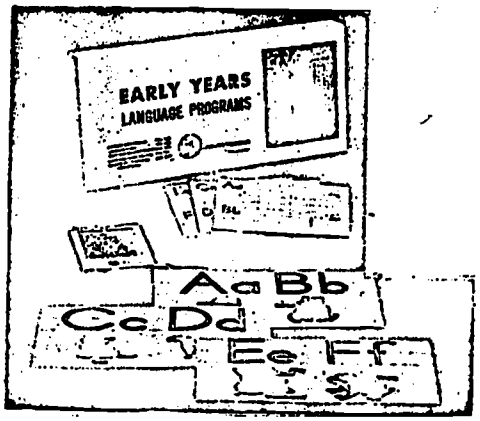
Set of ten, Price $17.45

3. **ALPHABET AND WRITING PROGRAM**

A structured program stressing learning of alphabet names and order, development of writing readiness and the writing of manuscript letters. With 2 records, 14 animal alphabet cards; teacher's guide and 16 spirit masters for practice writing.

2840B Alphabet and Writing Program, cassettes. Set, 25.00

2840 B



4.

Tactile Numeral Blocks.
An unusually effective kinesthetic device for teaching numerals to the child who finds number recognition difficult. The large, precisely cut wooden numerals are 5/16" thick. For each one, there is a corresponding hardwood block, 3¼" x 4½", grooved in the exact shape of the numeral to a depth of 3/16". When a numeral is placed in its proper groove, it will project ⅛" above the surface of the block, providing still another tactile experience to reinforce comprehension of number concepts. Can be used with Tactile Display Board, 4L 265.

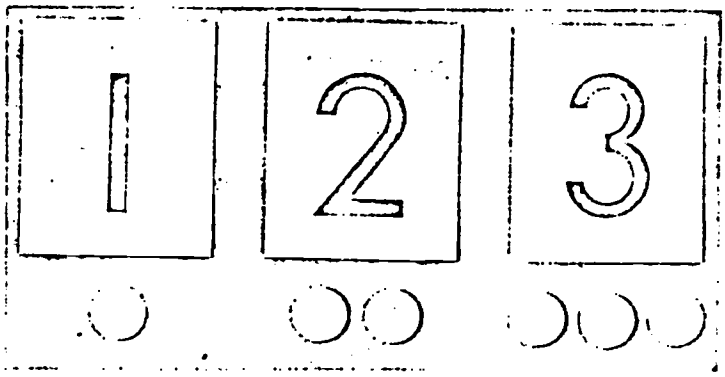
4X250 3 lbs. 9.00

5.

Stepping Stones.
Provide concrete experiences in mathematical concepts as children involve themselves or other children in "living" number activities. Set contains ten 8" squares made of a highly wear-resistant space-age material. Non-skid squares need not be fastened to the floor.

4X240--2 lbs. 6.95

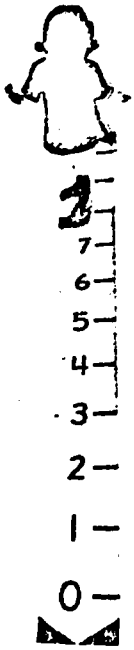
6.



51 CARDS AND COUNTERS

Ten strong white cards with bold imprinted figures from one to ten and 55 plastic counting discs. The child arranges the cards in sequence and counts out the proper number of discs to be placed on each, gaining the association of counters as individual items and an entity which is illustrated with a number. Teaches concepts of odd and even and the idea of sets such as in modern math. **Price 2.65**

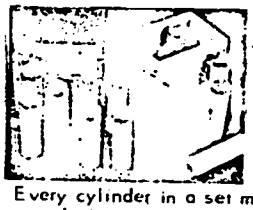
7.



Walk-On Number Line.
Designed to help children project themselves into mathematical concepts by physical participation, this walk-on device allows them to feel the increase or forward movement in addition, the decrease or backward movement in subtraction. The 10 foot long tape contains 11 squares, numbered from 0 to 10, first square is empty to show the starting point. Easy to clean, readily taped to the floor

4X238 1¼ lbs 4.50

8.

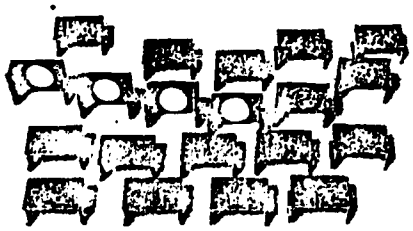


Second Sound Discrimination Set

Every cylinder in a set makes its own special sound when shaken, and, matches its counterpart in the other set. Cylinders in each set have progression from loud to soft. Instructions included with sets. For ages 3-4.

2525500 Shpg Wt 2 lbs $18.90

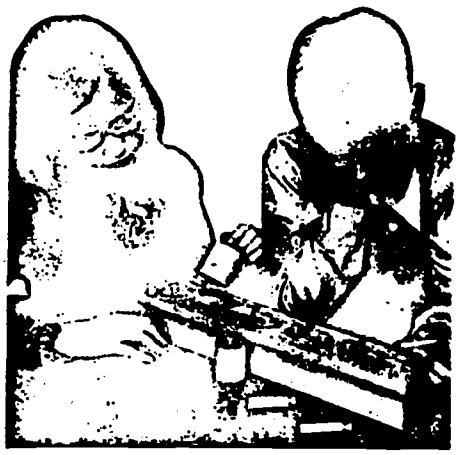
9.



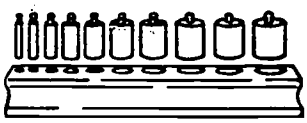
Tactile Bridges.
There's more to these grey plastic bridges than meets the eye. Feel the textured undersides to know the difference. Perfect for developing touch awareness. Each textured bridge must be matched to its mate. Ten pairs of textures in the set.

4L 492 ..... 8.95

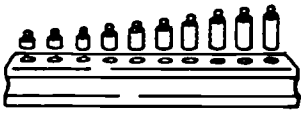
10. **Play a Game of Placement with Beautiful Hardwood Cylinder Blocks**



Toy with length, height, width, area, and volume as spatial and manipulative development occur. Each hardwood receptor-block contains ten wells to hold ten knobbed cylinders. Error control built into blocks as variation in depth and diameter of the wells allows only one correct slot drop for each cylinder. Excellent for the pre-training of writing skills as thumb and first two fingers used in writing, are used in manipulation of cylinders. Children repeat practice drills, learn visual discrimination of dimension. Blindfolded, by touch, the child learns shape discrimination. Lost cylinders can be ordered by set and number. For ages 2½-4. **Compare with knobless cylinders, a more advanced set, described below.**



First Cylinder Block



Second Cylinder Block

Third Cylinder Block

Fourth Cylinder Block

First Cylinder Block: cylinders increase in diameter only, height is constant.
2315000 Shpg Wt 3 lbs Ea $9.30 6/Ea $8.70

Second Cylinder Block: cylinders increase in height only, diameter is constant.
2315100 Shpg Wt 3 lbs Ea $9.30 6/Ea $8.70

Third Cylinder Block: cylinders increase in height as they increase in diameter.
2315200 Shpg Wt 3 lbs Ea $9.30 6/Ea $8.70

Fourth Cylinder Block: cylinders decrease in height as they increase in diameter.
2315300 Shpg Wt 3 lbs Ea $9.30 6/Ea $8.70

Set of All Four Cylinder Blocks No. 2315400 $36.75

11. 608 **SIZE BOARD** designed by Barbara Dorward is to give the child practice in very elementary size perception. It may also be used for color matching and color identification. Two types of handles, drawer pull and door stop, give the child practice in two hand positions. The child is asked to place in the board the "big block" or the "little block". At first blocks of the same color are used and the board can be rotated to reverse the large and small cutouts. Adding color identification the teacher may present several colors of large and small blocks and ask the child to place the "big red block" or "the little green block". The child may be asked to place the "big block that is the same color as this one". Supplied complete with inset Board and insets.
Each 14.60

12. 609 **CIRCLE BOARD** designed by Barbara Dorward. Teaches the child size perception without the factor of shape and may be used in teaching size comparisons. There is a 1/2" difference in diameter between any of the five circles and the size nearest to it, to give the child a clear distinction between sizes. The circle forms are raised on the board and painted different colors. Each has a large knob, which is easy to grasp. 16.65

Activity 4

Select one of the sets of assessment information below. Then plan a series of approximately six to eight activities using one or more of the instructional materials you found at a Materials Center or in a supply catalogue. Note that the materials you select, as well as the activities you plan, should utilize the modality specified below.

Assessment Information

A. Name: Jonathan Harper

Age: 8 1/2

Modality strength: Visual

B. Name: Thelma Morgan

Age: 7

Modality strength: Auditory

C. Name: Robert Maynard

Age: 9

Modality strength: Kinesthetic

D. Name: Marcia Kebler

Age: 6

Modality strength: Visual

When you have finished selecting materials and planning your activities, present them to your instructor either orally or in a written report. If he agrees that you have succeeded in identifying materials and activities that utilize the specified modality, you

have successfully completed this element and may proceed to Element III, which starts on the next page. If your instructor feels that you hav e not selected appropriate materials or developed satisfactory activities, select another set of assessment information and try again. If your second attempt is not satisfactory, confer with your instructor about what your next step should be.

ELEMENT III

Objective: When provided with the appropriate assessment data, you will demonstrate your ability to select a series of activities and materials that

1) are initially addressed to a modality weakness via a strength and
2) progressively require more weak and less strong modality functioning.

There are two steps in achieving this objective. For the first, you are to complete one of three alternate activities -- Activity 1, 2, or 3. For the second, you are required to complete Activity 4.

Are you ready to begin? Remember, you are to select one of the following three activities. (You may do more than one if you want, and you may also -- with your instructor's approval -- substitute an activity of your own devising for Activity 1, 2, or 3.)

Activity 1

Obtain audio cassette B, Modality Linking, which accompanies this module. Listen to the presentation on the cassette as many times as you feel necessary in order to understand the material. Take notes if you like. As you listen, think about the following questions:

1. What kinds of activities are best suited to each learning style?
2. What materials would be effective with each modality incorporation style?
3. How could these activities and materials be used to link weak and strong modalities?

When you're finished, turn to the follow-up on page 60 for a check on your comprehension of the audio presentation.

Activity 2

Turn to the Appendix and read the selection that starts on page 75 . As you read, think about the following questions:

1. What kinds of activities are best suited to each learning style?
2. What materials would be effective with each modality incorporation style?
3. How could these activities and materials be used to link weak and strong modalities?

When you're finished, turn to the follow-up on page 60 for a check on your comprehension of the reading material.

Activity 3

Obtain and view at least one of the following two films (you may view both if you like). Note that you will need a 16 mm. film projector and a screen as well as the film. Take notes during the viewing if you like, and think about the following questions:

1. What kinds of activities are best suited to each learning style?
2. What materials would be effective with each modality incorporation style?
3. How could these activities and materials be used to link weak and strong modalities?

When you're finished, turn to the follow-up on page 60 for a check on your comprehension of the material in the film.

Slingerland Screening Test for Specific Language Disability. Available from Educators Publisher, 71 Mouton Street, Cambridge, Massachusetts 02138.

Frostig Method: Visual Perception and Failure to Learn. Available from Churchill Films, 622 North Robertson Boulevard, Los Angeles, California 90069.

Follow-up for Activities 1, 2, and 3

Select two areas of modality functioning and designate one as the strongest modality of a hypothetical student, the other as the weakest modality. Develop a selection of activities and materials that can be used to link the weak with the strong modality in a specific curriculum area. You may create materials of your own or select commercially produced materials.

Present your selection to a group of three to five other students who are taking this module. Analyze each activity and material in terms of its usefulness in the specified curriculum area and demonstrate how the activities and materials utilize modality linking.

If the group agrees that your selection succeeds in linking modalities, you may go on to Activity 4. If your selection of activities and materials is not satisfactory, choose another activity in this element and repeat the follow-up. If you fail to develop a satisfactory set of activities and materials the second time, confer with your instructor about what your next step should be.

Activity 4

Select one of the sets of assessment information below. Then plan a series of approximately eight to ten activities in the given curriculum area that are designed to use the child's modality strength to develop the area in which his modality functioning is weakest. The initial activities in the series should rely heavily on the child's strong modality; then you should progress to his weakness, with the final activities requiring the greatest utilization of the weak modality.

Assessment Information

A. Name: James Petrie

Age: 7 1/2

Weak modality functioning: Visual

Strong modality functioning: Kinesthetic

Curriculum area: Reading comprehension

B. Name: Eleanor Gerber

Age: 9

Weak modality functioning: Auditory

Strong modality functioning: Visual

Curriculum area: Math addition concepts

C. Name: Lillian Roberts

Age: 6

Weak modality functioning: Kinesthetic

Strong modality functioning: Auditory

Curriculum area: Number concepts

D. Name: Richard Johnson

Age: 8

Weak modality functioning: Visual

Strong modality functioning: Manual expression

Curriculum area: Vocabulary

When you have finished planning your activities, present them to your instructor either orally or in a written report. If he agrees that you have succeeded in planning activities that link a strong with a weak modality and enable the child to progress from his strengths to his weaknesses, you have successfully completed this element and may proceed to the post-assessment, which begins on the next page. If your instructor feels that you have not developed a satisfactory set of activities, select another set of assessment information and try again. If your second attempt is not satisfactory, confer with your instructor about what your next step should be.

POST-ASSESSMENT

Following are four sets of diagnostic information, each one in the form of a descriptive summary, such as a teacher might write. Information about test results and classroom performance in specific areas in included. The child in each case is a nine-year-old boy.

Select one set of information and prepare a series of appropriate activities and materials, in lesson plan form, that serve to require progressively more of that child's weak modality functioning and less of his strong modality functioning.

When you have finished, give your lesson plan to the instructor, who will evaluate it. Meet with him to discuss this evaluation. If you both agree that you have successfully completed the post-assessment, congratulations. You may now exit from the module. If you did not complete the post-assessment satisfactorily, decide with your instructor what additional activities to do before trying the post-assessment again.

A. Ricky was referred for diagnostic screening because of his poor academic performance. Specific areas of concern are reading, arithmetic, spelling, and writing. It has been noted by the classroom teacher that he cannot remember words once learned.

Diagnostic evaluation indicates that his visual system is functioning adequately. His ability to discriminate designs, letters, and words is good. Ricky exhibits a special strength in remembering

pictures in sequence following a three-second observation.

Auditorially, Ricky is able to recognize and discriminate environmental sounds. However, his ability to retain and recall prior auditory stimuli is very weak except when given related words. His memory and sequential memory for numbers, letters, and unrelated words is weak. When given related words, he functions adequately.

In the area of combined functions, his visual-motor ability needs improvement. Additional experiences in these types of tasks seem to be indicated. Ricky's auditory-motor functioning is adequate. However, additional experiences with letter-sound discrimination of similar sounds (for example, z/v) and letter formation seem to be indicated.

Ricky is a very verbal child, and he enjoys adult attention. Receptively his language is adequate. He does, however, need additional experiences to improve his expressive language. He lacks the names for some environmental stimuli, such as shapes and fruits, and his expressive reasoning is very concrete and functional.

It appears that Ricky needs to have his language system strengthened, with emphasis placed on his expressive ability. His auditory and sequential memory weakness must also be recognized as a hindrance in language development.

B. Donald was referred for diagnostic screening because of his poor academic performance. Specific areas of concern are

reading, arithmetic, and spelling. It has been noted by the classroom teacher that he has perceptual problems and poor memory.

Diagnostic evaluation indicates that his ability to visually discriminate designs, letters and words is adequate, although he has some problems with directionality when discriminating designs and with reversals when discriminating words. Donald exhibits the ability to retain and recall prior visual stimuli with minimal success; however, he is unable to remember in sequence.

Auditorially, Donald is able to recognize and discriminate environmental sounds. There is, however, need for improvement in his listening skills. His auditory memory for numbers is intact, but he needs support in strengthening the area. However, his auditory memory for letters and unrelated words is very weak. Sequentially he is unable to handle any of these tasks (letters, numbers, or words). He has some letter-sound discrimination problems for letters with similar sounds (s,f), (v,b,d). Donald does, however, show strength in retaining and recalling meaningful sentences.

Integratively, he needs improvement with both visual-motor and auditory-motor tasks. This is due to perceptual problems in visual images. Minor deviations were prevalent on the left side of peg-board designs (X, Δ, ◇). Donald's auditory-motor problems appear to be the result of difficulties in letter formation, letter-sound discrimination, and auditory attention.

In language, Donald has good expressive naming ability;

therefore, it is assumed that receptively his labeling ability is also good. He is also adequate in his ability to reason receptively (no verbalization required). As one might expect of a youngster with a serious deficit in memory and sequential memory, Donald's expressive reasoning ability is very weak. He is performing at a very functional and concrete level.

Donald is a youngster with definite weaknesses in his visual system, his auditory system, and his ability to handle language in verbal expression. However, Donald's overwhelming problem in both his visual and auditory systems is his memory and sequential memory deficits.

It seems apparent that Donald's inability to store and retrieve information is interfering with his ability to function at the perceptual and conceptual levels. Memory is critical for language development. In addition, the abstractions necessary for reading comprehension or for doing complicated arithmetic calculations are mental activities which depend upon long-term memory.

C. Luther was referred for diagnostic screening because of poor academic performance. Specific areas of concern were reading, arithmetic, spelling, and writing. The teacher noted problems in hearing sounds and remembering sounds, as well as in visual sequencing.

Diagnostic information with regard to Luther's visual system reveals that his ability to discriminate designs, letters, and words is adequate. His visual memory (ability to recall prior visual

stimuli) is also adequate. His ability to recall in sequence needs improvement. This confirms the teacher's observation regarding visual sequencing.

Auditorially, Luther is able to discriminate environmental sounds, although he has some mild difficulty with fine discrimination. There is some discrimination difficulty in the area of letter-names with similar sounds (specifically b/v, s/f, g/j, c/z). Thus, the difficulty with fine auditory discrimination is consistent for environmental sounds and letter-name sounds. His greatest weakness in the auditory area is in auditory memory and sequential memory. This is true for numbers, letters, and words. His auditory memory for related words is strong, however. This indicates a need to present skills in a meaningful context, which the teacher confirmed in conference.

In the area of combined functioning, Luther's auditory-motor performance for letters and numbers is adequate. In the area of visual-motor performance he had difficulty reproducing the triangle and the diamond. He was able to perceive the error, but was not able to translate his perception into a motor performance. With help from the teacher, he was eventually able to do this, although it was difficult for him. It should be noted that he showed some directionality problem in the letters p-q and j-i.

In the area of language, Luther's receptive reasoning is adequate. In the area of expressive language, however, Luther's naming ability needs improvement, and expressive reasoning is very weak. He tends to use description and function. He needs work in

classification, categorizing, and seeing likenesses and differences.

In summary, Luther's major area of disability is in expressive language. This is probably related to his weak auditory system, since failure to adequately perceive and remember auditory stimuli underlies his language development.

D. Jeffrey was referred for diagnostic screening because of his limited skills and short attention span. Specific areas of concern are reading, spelling, and language. It has been noted by the classroom teacher that he has perceptual problems and he is easily confused by oral directions.

Diagnostic evaluation indicates that his ability to visually discriminate designs, letters, and words is adequate. Jeffrey exhibits the ability to retain and recall prior visual stimuli; however, he is unable to remember in sequence.

Auditorially, Jeffrey is able to recognize and discriminate environmental sounds. His memory and sequential memory for numbers is adequate. He displays adequate ability to retain and recall related and unrelated words. Despite his demonstrated ability to effectively receive and organize auditory stimuli, Jeffrey needs additional experiences in memory and sequential memory for letters. Support in letter-sound discrimination for similar sounds is also needed (for example, s/f and b/p/v). Sequential memory for unrelated words also needs strengthening.

Integratively , Jeffrey needs additional experiences with both visual-motor and auditory-motor tasks. His auditory-motor performance

with numbers is adequate. His auditory-motor performance with letters needs support, with special emphasis on letter-sound discrimination and letter formation. Jeffrey also exhibits poor use of space in auditory-motor tasks.

In language, Jeffrey's receptive system for labeling is adequate. However, he needs support in receptive reasoning and expressive naming. Much support is needed to up-grade his expressive reasoning performance, as his ability to handle concepts is very poor.

APPENDIX

Reading Selection for Element I

The purpose of this chapter is to offer guidelines for the development of remedial procedures for the various functions measured by the ITPA. The chapter does not develop these procedures; it is not a curriculum or a course of study or a step-by-step sequence of activities for remediation. It is, rather, an endeavor to guide the remedial teacher in developing her own procedures for each child by giving her a broader understanding of the ten areas evaluated by the test and a further analysis of what each task involves. A child may fail to perform a particular task for any one of a number of reasons. In auditory reception, for example, a child may fail to understand what is said to him because he fails to recognize and identify words. He may even fail to identify and recognize other environmental sounds. He may not attend to auditory stimuli. He may not have attached meaning to isolated words. Or he may know the separate words but have difficulty understanding consecutive speech. In a practical situation auditory reception covers a much broader area than just answering "yes" or "no" to the particular questions presented on the test.

It is hoped that the breakdown of tasks presented in this chapter will help the teacher analyze the child's failure in a particular task so that she may help him develop the requisite abilities. By studying

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the various tasks outlined under each function in this chapter, the teacher may be aided in the selection or development of activities that will remediate the disability.

It should also be pointed out that in breaking down the ten areas, some of the abilities listed fall into a developmental sequence, but others represent diverse aspects of the task and may contain varying degrees of attainment within that aspect of the task. In manual/motor expression, for example, three types of difficulty have been noted: the child may lack basic motor skills; he may lack ideas leading to motor expression; or he may not make his ideas operational. The teacher, then, is asked to make further diagnosis of the child's functioning to find out why the tasks presented are difficult for him or what particular facets of the function cause him trouble. She will then have a better idea of where to direct her efforts. In considering relevant techniques of remediation for a particular child, the teacher must relate her techniques not only to the particular area of weakness but also to the child's level of development in that particular area and also in other areas of functioning.

As indicated in Chapter 8, remediation involves the utilization of many functions in addition to the deficit requiring remediation. Although the functions have been outlined separately, teaching does not eliminate other functions when remediating the major disability or disabilities. The most effective remediation attempts to integrate the disability with other abilities. Note the following example of a teacher who is attempting to remediate a child with a significant auditory association disability.

Teacher shows the child a glass and says "What is this?"

Child: "Glass." (This required visual reception and verbal response.)

Teacher: "What do we do with a glass?"

Child: No response.

Teacher: "Do we eat it? Do we write with it? Do we drink from it?"

Child: "We drink." (This required auditory reception and verbal expression as well as auditory association.)

Teacher: "What do we drink from it?"

Child: "Water." (This required auditory reception, auditory association, and verbal expression.)

Teacher: "What else do we drink from it?"

Later: "What kinds of glasses do we have? What else do we drink from? What else do we use glasses for?"

Whatever materials are used, the teacher must ask herself, "In what levels, in what processes, in what channels does this child need development? How can this material create an activity that will alleviate the child's particular problems?" Handling materials and activities for remediation demands adaptation to steer the activity where needed. The main aim of remediation, in contrast to regular teaching, is to emphasize the instructional techniques and content that will ameliorate the disability.

The different functions tested by the ITPA can be analyzed in a number of ways, and the tasks can be analyzed in an infinite number of stages. To keep the analysis within reason the functions have been broken down as follows, presenting first the auditory-vocal functions and second the visual-motor functions.

Auditory reception

A. The child may not recognize and identify sounds in his environment.

B. The child may not have developed a listening attitude.

C. The child may have difficulty attaching meaning to words.

D. The child may not understand consecutive speech.

Auditory association

A. The child may have difficulty holding two or more concepts in mind and considering them in relation to each other.

B. The child may have difficulty identifying and verbalizing first-order relationships (directly relating two verbal concepts).

C. The child may have difficulty identifying and verbalizing second-order relationships (finding a specific relationship to match one already given).

D. The child may have difficulty learning to classify or categorize concepts.

E. The child may have difficulty finding and evaluating alternative solutions to a problem.

Verbal expression

A. The child may lack basic vocal skills.

B. The child may lack adequate vocabulary.

C. The child may not express ideas spontaneously (difficulty in retrieval of words or ideas).

D. The child may lack automatic grammatic skills.

E. The child may lack adequate interpersonal communication.

Grammatic and auditory closure

A. The child may not have had sufficient exposure to the material being presented.

B. The child may lack adequate short-term auditory memory.

C. The child may not reactivate what he hears, either vocally or subvocally.

D. The child may not learn readily even when experiences have been repeated many times.

E. The child may have difficulty synthesizing isolated sounds into words (sound blending).

Auditory sequential memory

A. The child may have difficulty attending to the details of auditory stimuli.

B. The child may have difficulty repeating what he has heard and attended to.

C. The child may have difficulty storing and retrieving information.

Visual reception

A. The child may lack prerequisite skills of visual-motor perception.

B. The child may lack knowledge and experience.

C. The child may not observe things within his visual field.

D. The child may not attach meaning to visual symbols.

E. The child may not utilize visual imagery.

Visual association

A. The child may have difficulty holding two or more concepts in mind and considering them in relation to each other.

B. The child may have difficulty identifying first-order relationships (directly relating two visual concepts).

C. The child may have difficulty identifying second-order relationships (finding a specific relationship to match one already given).

D. The child may have difficulty classifying or categorizing visual concepts.

E. The child may have difficulty finding and evaluating alternate solutions to a problem.

Manual/motor expression

A. The child may lack prerequisite perceptual-motor skills.

B. The child may lack ideas leading to motor expression.
C. The child may not make ideas operational.

Visual closure

A. The child may lack prerequisite perceptual-motor skills.
B. The child may lack the ability to visualize.
C. The child may lack the ability to organize a disparate visual field into a unified percept.
D. The child may lack adequate speed of perception.

Visual sequential memory

A. The child may show physical correlates inhibiting development of visual sequential memory.
B. The child may have difficulty attending to visual details.
C. The child may have difficulty remembering what he has seen and attended to.
D. The child may be unable to read and spell due to a visual sequential memory deficit.
E. The child may have difficulty storing and retrieving information once learned.

Building on the breakdown of abilities presented above, the following pages present suggestions for remediation and give some examples of activities which can be developed. We hope that the breakdown and suggestions for remediation will serve as guidelines for teachers in developing programs for individual children.

Reading Selection for Element III

Train the deficient areas

There has been some controversy as to whether to utilize a child's assets or train his deficits. It appears that much of this controversy is more apparent than real for it is not an either/or question. It is necessary to use the assets and also train the deficits. Current thinking today does not hold that deficits are innate and unalterable. If they were, then, of course, we could rely solely on assets. But on the assumption that most learning disabilities can be ameliorated, it is advisable to develop abilities which are not functioning adequately. Disregarding a deficit and developing other abilities to take its place is compensation. If a child is deaf and his deafness cannot be cured, the child is educated through other sense modalities. This is compensation. If, on the other hand, the child has some hearing, an attempt is made to ameliorate the deficit through hearing aids and auditory training. Similarly, physical rehabilitation is used extensively with postpolio patients and only where further development has failed are compensatory methods used.

History has provided many examples of corrective methods used to improve the weak areas by men who have subsequently over-

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come their defects. The Greek orator Demosthenes and Teddy Roosevelt are notable examples. They found their weaknesses and set about training those areas, not compensating with other abilities. Demosthenes struggled to overcome a speech impediment by learning to talk with pebbles in his mouth. Roosevelt pushed himself into a rugged ranch life and overcame his frailty. Compensating for disabilities by utilizing assets, on the other hand, has definite disadvantages. By bypassing activities in which the child does poorly and providing activities in which he does well, the child's discrepancies between abilities become exaggerated. Weak areas remain weak while strong areas become stronger. This often happens at home when parents "show off" a child in activities in which he does well and overlook activities in which he does poorly. One child may develop verbal fluency or expression at the expense of motor expression. He obtains reinforcement from his parents and teachers for verbal activities and tends to avoid motor expressive activities which he does poorly and for which he receives no approval or reinforcement. Hence, many of the psycholinguistic deficits found in children are, at least partly, the result of lack of experience and encouragement in those areas during the child's early development.

It is interesting to note that among the culturally different or economically disadvantaged we find some deficits which are probably due to disuse and lack of training rather than to neurological origins. How irreversible these deficits are remains to be seen. It seems reasonable to expect, however, that early attempts at alleviating these deficits will bear fruit. Even among those whose disabilities are neurologically related it is likely that the behavioral deficits become exaggerated because of avoidance and can be improved through remediation (Kirk, 1967).

Remedial programs aim, therefore, to stimulate the functioning of those abilities in which the child is below par. Even if those abilities cannot be brought up to average functioning, experience has shown that they can usually be improved and the gap can be reduced between them and the child's more successful areas which he continues to exercise without special help.

Utilize areas of strength

The urgency for training deficits in a child does not mean that assets are disregarded. On the contrary, assets are very important and have some very specific uses in the process of remediation.

Over and above the fact that the child is going to use and develop these areas of strength spontaneously, such areas serve an important role in the teaching process. In the first place, there are many situations whereby he can acquire knowledge through his stronger channel or by use of substitute strategies. In social studies, for example, if a child cannot read printed material or is slow in comprehending oral material, such visual aids as filmstrips may be necessary for him to keep up in a classroom situation. Such methods can be used concurrently with training to correct the deficiencies in his weak areas. In other words, while the deficits are being remediated in certain periods his general education tends to use his assets for other purposes.

In the second place, the assets are used to develop weaker areas. Following are some examples wherein strengths are used to modify weaknesses.

1. If a child has low auditory reception but high visual reception, auditory reception is developed by presenting a visual stimulus the child understands to give meaning to the comparable auditory stimulus which he does not understand. Later the auditory stimulus is presented alone. For example, if a child does not understand such commands as "Wiggle your fingers," "Raise your hand," "Pick up your pencil," etc., the remedial exercise could consist of Simple Simon games or their variations. Thus, a teacher says "Simple Simon says 'Wiggle your finger,' " and at the same time wiggles her finger but draws attention to the verbal command. The child imitates what he sees. After other directions or commands are made with the visual counterpart, the remedial teacher says "Simple Simon says 'Wiggle your finger' " without using the visual clue for imitation. In this teaching situation the child learns to follow the auditory command without the visual clue for imitation. He has learned to "hear and do"; i.e., he has learned to interpret what he hears in order to perform the action.

2. Adequate receptive ability can be used to elevate the verbal expressive ability. In this case, the auditory receptive ability will be used to help him to "hear and say," his visual reception to "see and say," and his kinesthetic reception to "do and say."

3. If the child can repeat sentences but is unable to spontaneously express ideas, the teacher uses the ability to repeat in developing the ability to express, such as showing the child a ball and saying "This is a ball. Say 'This is a ball.' " When the child responds, the

teacher says "What is this?" and expects the child to respond "This is a ball."

4. If a child has difficulty seeing relationships in the area of auditory association but grasps such relationships in the visual association area, the latter relationships may be shown in conjunction with the auditory presentation. For example, if the teacher asks the child how a kitten and a puppy are alike, it might be necessary to also show him pictures of a big cat and a kitten and of a dog and a little puppy. The visual relationships can then be noted and the more subtle relationships of age and family similiarities demonstrated. Then, without using pictures, a similar situation can help the child understand relationships verbally, gradually extending the task to more varied relationships.

"What goes with a hammer?" (No response.)

The child is shown several items or pictures of items. "Which of these goes with a hammer?" (He points to the nail.)

"What is that?"

"A nail."

"You tell me what goes with a hammer."

"The nail."

The items are removed and the original question repeated. "What goes with a hammer?"

Hopefully, this time the child will answer correctly without the visible objects. If not, he may be asked to recall what those other things were that he looked at. Or the question may be simplified by asking "Does a nail or a sponge go with the hammer?"

These illustrations do not imply that the training of all deficits must rely on assets. In some situations the training of a deficit, like sound blending, may have to be accomplished directly with specially designed exercises.

Use multisensory presentations appropriately

Some controversy has arisen in regard to the use of multisensory stimulation in contrast to a unisensory presentation. The appropriate use of multisensory presentation depends on the disability of the child, on what one is trying to accomplish, and on the stage of development of the child. To assume that training in one sense modality will transfer to another sense modality in children with disabilities is not always sound. On the other hand, assuming that

multisensory stimulation will increase learning ability in all cases is likewise questionable.

With some children the stimulus in one sense modality may interfere with reception in another sense modality. It may become just a distraction and serve to confuse the child who is relying on another modality of reception. If he lacks the ability to interpret what he receives in one sense modality, he will switch to a sense modality through which it is easier for him to make use of the stimuli. When he is unable to shut out the confusing stimuli from his weaker area, it serves as so much "noise" which interferes with the adequate functioning of any channel. Only when the information received from both channels can be integrated is a multisensory presentation of value in remediation.

Some children learn better through a visual modality, others learn better through an auditory modality, while others benefit most from a tactile or kinesthetic modality. Soviet psychologists refer to neuropsychological counterparts as visual analyzers, auditory analyzers, or kinesthetic (or motor) analyzers. In the intact organism these analyzers are integrated. In pathological conditions there is disintegration.

With normally developing children the simultaneous use of more than one sense field probably serves to intensify the reception of information, with the presentation of stimuli in one modality serving as an adjunct to other modalities. Multisensory approaches in teaching are, therefore, common and usually helpful. When a classroom teacher faces twenty to thirty children, some of whom undoubtedly comprehend material presented in one channel better than in another, she often uses audio and/or visual aids and sometimes tactual-kinesthetic aids to supplement the usual classroom presentation. This multisensory approach provides an opportunity for all children to acquire the information through their best modality. It provides added stimulation for the child who uses all channels equally well. It also helps to integrate the analyzers (to borrow the Russian term).

Indiscriminate bombardment of multisensory stimulation is, however, a shotgun approach and is not the best way of using multisensory media with many children who exhibit divergent learning abilities. The very reason for presenting ordinary children with various forms of sensory input is to make sure that they receive the information through one sense modality or another. In a class-

room situation where the child who is weak in one receptive function is struggling to keep up with the rest of the class, the multisensory presentation is a real boon because it allows him to use the channel in which he functions best. He often completely disregards the use of other modalities. In remediation this is just what we *do not* want, for the child is thereby exercising that which he already has and further weakening the deficient function through disuse.

In remedial work multisensory media are also used but they are used judiciously. They are used in such a way as to help the child make use of the *weak* receptive function, thereby learning how to gain meaning through that channel. If a child has difficulty picking up a sequence of beats on the drum or knocks on the door, the teacher may help the sequence take form by presenting a comparable graphic pattern in the visual channel. Seeing these patterns visually and having them presented simultaneously with, or in immediate succession to, the auditory stimuli gives the child a point-to-point correspondence between the two sensory stimuli. But the presentation is not dropped at this point for the child has not yet taxed his auditory recognition of the pattern. The same pattern must next be presented without the visual stimulus. Dependence on the intact function should be gradually faded out. Continued dependence on reception in the intact area would defeat the purpose by allowing the child to use this area to the neglect of the area being remediated.

One child was diagnosed as having intact auditory abilities but very deficient visual abilities. To teach this child to read, the parent wrote words on flash cards and presented them to the child as follows: "This is k-i-t-t-e-n (saying each letter), kitten. Say 'kitten.'" By this process, spelling each word as it was presented to the child visually, the child learned thirty words. Upon examination by one of the authors it was found that the child could recall all of the words when spelled without the visual presentation but could not read any of the thirty words when presented visually without the auditory cues of saying each letter. This is a multisensory approach, but the child learned only through unisensory stimulation in the auditory channel. In this case the child paid attention only to the auditory stimulation and disregarded the visual stimulus. By altering the instructional procedure and gradually fading out the auditory stimulus the child learned to read by a visual approach.

In certain situations unisensory stimulation is necessary. If a child, for example, has a disability in sound blending and has had difficulty in learning to read, remediation should be initially through auditory sound blending training without reliance on visually presented letters. The child must ultimately learn to blend sounds presented auditorily. When this is accomplished he then learns visual symbols of phonemes, and through auditory and/or subvocal clues is able to automatically sound the phonemes and blend them into the word.

Most learning is intersensory. The young child experiences a cat tactually, visually, auditorily, kinesthetically. Then he learns to understand the vocal symbol "cat" which revives images of the previous experience. Later he learns to recognize the visual symbol "cat" in reading; all these sensory experiences are interrelated. The young child learns visual space through motor experiences. He may reach for a ball which is too far away. He crawls toward it, reaches again, crawls and reaches, until he comes into contact with the b. ll. Through such experiences he learns to judge distance. Similarly, in the normally developing child auditory language is learned within the framework of visual and kinesthetic experiences; later attaching meaning to visual symbols in reading is related to the understanding of auditory symbols. Thus, the judicious use of multisensory presentations and cross-modality techniques are valuable in remediation. When to use unisensory and multisensory approaches in remediation depends upon the tolerance of the child and his response to the stimulations. These cannot be generalized but can be determined by a competent diagnostic-remedial teacher.

The program of remediation that is to be designed must necessarily determine (a) whether the auditory, visual, or kinesthetic analyzer should be used in isolation, (b) whether one should be developed with the aid of the other two, or (c) whether remediation should integrate the analyzers to function in unison. An analysis of the child's responses should give clues to the most effective approach for the child at his stage of development. The ultimate target, of course, is to produce an integration of the analyzers to function simultaneously and as a unit.

Remediate prerequisite deficits first

In organizing a remedial program for a child it is necessary to decide whether one deficit is basic to another. An extremely defective auditory receptive ability may be associated with poor

auditory association and verbal expression. The remedial program in such a case should emphasize the development of auditory reception and integrate it with auditory association and verbal expression. A child who is low in both verbal expression and auditory memory may have as his basic deficiency auditory memory. During the developmental stages he may have been unable to imitate sentences in his environment because of a very deficient short-term memory. Remediation in his case should be on memory training in relation to words, phrases, and sentences, prior to or in conjunction with determining meaning from auditory symbols. The aim of the remediation is to assist him in keeping in mind a sentence which he has just heard so that he can repeat and interpret it.

Poor visual reception may be dependent upon poor visual discrimination. It may be necessary to develop an awareness of figure-ground relationships, spatial orientation, visual closure, or form discrimination. Poor auditory reception may be based on poor auditory discrimination. The child has not learned to understand spoken language because speech sounds are not differentiated. If the sounds are not differentiated, perhaps the sounds are not clearly heard because of a slight hearing loss. Such problems should be traced back to prerequisite deficits.

The purpose of a diagnosis, as indicated in Chapters 5, 6, and 7, is not only to look at the lowest score in the profile and organize a program for its improvement. It is to look at the *pattern* of abilities and disabilities, to evaluate the correlates, and to evolve a diagnostic hypothesis. This diagnostic hypothesis should indicate where to start and what deficiency or deficiencies to remediate first. If it is hypothesized, for example, that the child does not talk because he does not understand oral language, then it is obvious that auditory reception should be the basic area to remediate. The child is not going to learn to express himself verbally unless he understands the symbols to be used.

Make provisions for utilizing feedback

Good teaching makes use of three general forms of feedback: (a) the feedback the teacher receives from the child when he answers a question or completes a lesson, (b) the feedback the child receives from the teacher when she is confirming or correcting his response, and (c) the internal or external feedback the child receives from his own actual and covert responses, vocal or motor.

Remedial instruction in a one-to-one tutoring situation emphasizes continual feedback between the child and the teacher for the purpose of correcting the child's responses to the task in hand.

The internal and external feedback in which the child, instead of the teacher, monitors his own responses is very important in learning. When a teacher, for example, asks a child to repeat a sentence, the child (a) receives the stimulus auditorily, (b) associates it internally with his past experience, (c) responds verbally, correctly or incorrectly, and (d) receives the stimulus of his response auditorily (external feedback) and internally through vocal or subvocal muscle response or proprioception. He can monitor his own response in order to recognize the error and respond correctly. Feedback provides a self-correctional device if the individual recognizes his errors. Self-instructional programmed material provides for feedback and self-correction.

Some systems of remediation of deficits are based on a built-in feedback system. Kephart (1960) bases his system on what he calls the perceptual-motor generalization which must match the motor activity to the perceptual activity. The motor response becomes in part an internalized feedback mechanism and serves to integrate the motor and the perceptual activities. In learning to make correct responses the child uses feedback as a control so that if the response is incorrect, the circular sequence of output, input (feedback), output continues until the motor response matches the perceptual information.

An excellent example of feedback and correction is found in the Fernald (1943) system of teaching reading. The child sees a word or phrase, then from memory tries to reproduce the word or phrase, checks with the model, and, if incorrect, tries again. He continues monitoring his own responses until there is a match between the model he sees and his written response.

In organizing a remedial program provision should be made for vocal and/or motor response when appropriate so that the child will obtain internal and external feedback. Experiments have shown, for example, that a child can learn a list of words more efficiently if he vocalizes the words than if he does not. He will learn and retain them better if he vocalizes and writes the words. In other words, remedial programs should have a built-in response (vocal or motor) and a situation in which the child will have a chance to monitor his own responses and correct them.

Develop abilities functionally

It is preferable to develop abilities in a natural, everyday situation rather than in an artificial setting, and to train abilities directly in the performance that is required.

There are on the market today many workbooks and exercises designed to develop specific functions in children. It is the duty of the remedial teacher to analyze these materials and to examine whether the tasks included are going to transfer to a desired activity. For example, if a child has problems in visual discrimination and needs this ability to learn to discriminate letters and words, it is preferable to organize activities that would discriminate letters and words rather than activities that are designed to discriminate circles and squares. If a child has had difficulty in learning to read and if he shows defective visual sequential ability (which has been shown to be related to reading disabilities), it is preferable to train visual sequential ability with letters, words, and phrases.

In training a specific ability it is preferable to utilize training that is transferable and usable in a life situation. If a child lacks verbal expression and is receiving tutoring to develop words and sentences, he will progress faster if the lessons provide functional words that are used in the home and in the school.

Module: Stober, M. and Fields, W. Modality Linking

The field testing of this module has provided data about specific content or format that could profit from clarification, elaboration or revision. Module users may find the suggested refinements discussed below of assistance to them in the implementation of the module in particular instructional settings.

Users of this module regarded the concept of modality linking a valuable technique for use with children in their classes. Although the approach was originally intended for use with learning disabled children, the field test data indicate that it can be effectively used with children in other areas of special education. To insure maximum transferability to a classroom context, several modifications are suggested that focus on skill development in:

1. finding a child's strengths and weaknesses
2. applying the technique in a 'real life' situation.

Pre-Assessment

It is recommended that the pre-assessment be required so that the instructor can assess the extent to which the students need additional work in interpreting psychological and educational test data. This additional work can be incorporated in a new element (see Element A below).

After completion of the pre-assessment the results should be discussed with the student and an entry point decided upon based on the following:

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1. Entry Level I: If the student did not satisfactorily answer questions 1-3 he should begin with Element A and complete all the activities.

2. Entry Level II: If the student demonstrated adequate knowledge on questions 1-3 but not on question 4, he should begin with Element I and complete all the activities that follow.

3. If the student satisfactorily answered all of the questions of the Pre-Assessment he is exempt from the module.

Element A

Prior to undertaking this module students need to demonstrate that they can interpret a pupil's psychological and educational test scores. Where the pre-assessment indicates that they need supplemental work in this area because they do not have the required skills at their fingertips they should enter this element. The field test data have indicated that instructor presentation coupled with the use of a supplemental reading list is more effective than relying on the readings alone. One suggested way of doing this is for the instructor to provide an appropriate overview, direct the students to individualized readings and use adroit Socratic questionning in a large group session to consolidate the learning.

Element I

The notion of sense modalities can be explored in a variety of contexts as illustrated by the preliminary activity and the three activities that make up this element. Since each of these activities has a unique contribution to make to an understanding of the concept, students should be required to do all of them. None of them are time

consuming and the field test results suggest that the additional exposures result in a more competent performance on the follow-up activity of this element.

In addition, it has been found that the original directions for the follow-up activity are not sufficiently structuctured to demonstrate the transfer of the learnings. It is for this reason that some instructors have asked students to do an informal case study of a pupil in their class prior to undertaking the follow-up activities and to make use this pupil's modality strength in a curriculum area in which he requires remediation in working through the follow-up activity.

The case study could possible include the following:

1. Child's name
2. Birth date
3. General description of the child which includes language development, perceptual development, grossmotor development, growth in math and growth in reading.
4. Child's general strengths and weaknesses
5. Child's modality strengths and weaknesses

Element II

If at all possible, it would be desirable to require both activity 2 and activity 3. If activity 2 can not be arranged, perhaps the instructor can present some materials to the class for evaluation by the group. The handling of the materials adds a dimension of understanding which is often missing when working with catalogues. Yet, since many teachers have to work with catalogues in ordering materials, it has been suggested that activity 3 be included as well.

Element III

In the follow-up for activities 1, 2 and 3 (see p. 60) the "hypothetical student" could be replaced with the pupil on the Case Study suggested in Element I. Providing this structure appears to result in enhanced understanding and transfer.