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AUTHOR Mann, Philip H.; Suiter, Patricia A.
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ABSTRACT

This teacher training module classifies visual channel problems into the following four main areas: visual perception, revisualization (memory), visual-motor (eye-hand coordination), and ocular-motor tasks. Specific deficits are listed under these main headings, behaviors are given to help identify the problem, and ways to improve the condition are suggested. (PB)

I.A.

VISUAL CHANNEL PROBLEMS

Developed by:

Dr. Philip H. Mann and
Mrs. Patricia A. Suiter
for use by students in the BEPD
Training Program, University
of Miami, Coral Gables, Florida

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I. VISUAL PERCEPTION

Area of Deficit

A. Visual Discrimination

1. **Figure-Ground Differentiation.** (Distinguish object from general irrelevant sensory background and hold image while scanning total pattern).

Behaviors

- a. Is the child inattentive?
- b. Is the child disorganized?
- c. Does the child form letters correctly?
- d. Does he have difficulty keeping his place while he reads or while he copies material?
- e. Does he skip sections on tests or in his workbooks?
- f. Is he unable to complete material presented on a crowded page? (check workbooks child uses)

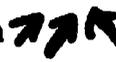
Amelioration

- a. Find and hold hidden form (Frostig, material, Continental Press and Jenn duplicator masters, workbooks, etc.)
2. **Recognition and Discrimination.** (What is different, what is the same, and how is it different or same - should be taught in order)

Behaviors

- a. Does the child know a word in context? If the word is presented in a new situation, does he act as if he had never seen it before?
- b. Does he have difficulty matching letters, shapes?
- c. Does he have difficulty recognizing letters?

Amelioration

- a. Finding similar size objects, buttons, etc.
- b. Same - different games with patterns direction 
- etc.

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3. **Visual Closure (omits portions of detail and cannot see whole.)**

Behavior

- a. Child cannot form whole from parts
- b. Blending problem: c at = cat or ha ve = have

Amelioration

- a. Puzzles
- b. Connect the dots.
- c. Incomplete pictures.

Special Considerations in Deficits

- a. Number of stimuli
- b. Rate of presentation (perceptual speed)
- c. Duration of presentation
- d. Time of day for presentation
- e. Color
- f. Brightness
- g. Size
- h. Shape
- i. Order of Sequence
- j. Motion

B. Spatial Relationships (Organization of body to space)

Behaviors

1. Is the child constantly bumping into things?
2. Are his body movements clumsy even though he appears to be fairly well coordinated?
3. Does he know the concepts of before, after, in, out, up, down, left, right?
4. Does he reverse letters, numbers, words?
5. Does the child perceive letters, numbers in the correct sequence?
6. Does he have difficulty in math problems that require a sequence of processes such as long division?
7. Does he have difficulty with measurement?
8. Does he have difficulty understanding graphs or maps?
9. Does he avoid crossing midline of body?
10. Does he have poor depth perception, rotations of letters: p/d?
11. Does he have a poor sense of direction?
12. Does he have problems in telling time?
13. Does he have problems dressing?

Amelioration

1. Learn body parts (use real dolls or paper dolls)
2. Learn senses.
3. Develop laterality - left, right orientation.
4. Fit hands onto cutouts of right and left hand outlines.
5. Act out words like in, out, etc., "Squirrel in Tree" game, etc.

C. Object Recognition (Central Blindness.)

Behaviors

1. Cannot recognize objects but can see, describe and reproduce objects.
2. Brain injury?
3. Sometimes can recognize objects through touch.
4. Trouble to integrate visual stimulus into a uniformed whole, concentrate on parts.

Amelioration

1. Card catalogue of words
2. Choice selection-verbal Is it _____
3. Pictures
4. Associate pictures or object with sounds

Educational Evaluations

1. Frostig Test of Visual Perception
2. Kephart (1960) Perceptual Survey Rating Scale.
3. Monroe Reading Aptitude Tests (1963).
4. Informal Reading Inventories and spelling tests
5. Detroit Tests of Learning Aptitudes, 1967.

II. Revisualization (Memory)

General Recall:

A child who has this learning disability has problems recalling what he has learned. The child can recognize the symbol when given a model, but cannot recall it by himself. In other words, he has difficulty revisualizing symbols. The child with a recall memory problem may have reading problems. His reading level may be two to three years below grade level. He often experiences more difficulty in spelling and writing than in reading. He cannot see it in his "mind's eye."

Evaluation of a Child with Revisualization Problems

A. Designs

1. Put several objects on a table. Remove one of them. Ask the child to tell you what is missing.
2. Graham-Kendall Memory for Designs.
3. Slingerland's Subtest Number 5
4. Detroit Test Number 9 and 12.

B. Numbers

1. Slingerland's Subtests Number 3 and 5
2. Construct your own test, on strips of tagboard write numbers beginning with one on a card and increasing the amount of numbers up to eight.

C. Letters

1. Slingerland's Subtests Number 3 and 5.
2. Construct your own test; on strips of tagboard write letters beginning with one and increasing the number to eight.
3. Detroit Test Number 16.

D. Words

1. Slingerland's Subtests Number 3 and 5.
2. Durrell Analysis of Reading Difficulty.

Amelioration

1. Matching and comparing.
2. Look at symbol, then reproduce it without the model in a sand tray, on paper, with clay, etc.
3. Reproduce simple designs with manipulative objects, pencil and paper, etc., and not looking at model.

Specific Recall with Tactual Association

A child may look at an object or symbol and make a judgement of its shape, size, texture, position, sameness and differences and its place in any of those concepts in regard to degree and sequence. If a child is given an opportunity to establish them by feeling he will have a more exact perception. A child with revisualization problems should be taught through his auditory and tactual channels. Perception should be established if the child is to develop higher learning. Activities in perception helps the child to be more aware of differences which will help him in later learning.

A. Shape:

1. Roundness and Curves

- a. Use spheres first, and any round objects available.
 - 1) Let the child take a suitably sized ball and cup it in his hands.
 - 2) Draw attention to the way it looks and feels; how it fits into the palms of his hands.
 - 3) Show him that he can turn it in any direction and feel its roundness.
 - 4) Call his attention to the fact that if his hands were large enough, they would fit around any ball and may even overlap.
 - 5) With a ball you could push a knitting needle through and show that if it pierces the center from any point on the surface, the distance is always the same.

2. Straight-edged objects.

a. Start with a cube of wood or styrofoam.

- 1) Have the child put the shape into his hand to feel how it is unlike the sphere; it has straight edges and sharp corners which prick his palm.
- 2) Let him feel along the straight lines and measure with his fingers or a pencil to see that the edges are all the same length.
- 3) Use rectangular solids and have the child discover by looking and feeling how these differ from the cubes.

Amelioration

1. Shape
2. Size
3. Like and different
4. Sequence
5. Position
6. Color

Use concrete materials first if needed, then pictures, geometric shapes, letters and words. Always teach from what is different to what is the same.

Activities (Auditory-Visual)

1. Listening and following directions
2. Sequence
3. Syllables and sequence

A child with revisualization problems should be taught through the auditory channel. This channel has to be developed so the child becomes more aware of hearing differences. This will aid him in remembering a concept when needed.

A. Listening and following directions:

1. Ask the child to perform actions in certain sequence.
 - a. Hopping, skipping, walking backward and forward.
 - b. Going in different directions to various places, turning around and touching objects with left or right hand.
 - c. Tapping with left or right foot and hand.

B. Sequence and spatial relationships:

1. Rhythm of motion can be developed by skipping, walking, running and tapping to music.
2. Say sentences with rhymes, accenting the rhyming words, ask the child to repeat in the same way.

a. The cat and the rat sat on a mat.

3. Say numbers in sequence emphasizing the even or odd ones.

a. 1 2 3 4 5 6
b. 1 2 3 4 5 6

Have the child repeat the same numbers emphasized.

C. Syllables in Sequence:

Give the child plenty of practice in separating words into syllables so that he will hear and be able to repeat them in proper order. This will help him with spelling as well as pronunciation and will train him so that he will not be likely to make reversals or transpositions.

1. "Draw" the syllables on the blackboard, or on paper and have the child do the same. Have him say each syllable slowly as he does this. Start with two syllable words and go to longer ones.

- a. (walk ing) _____
- b. (small er) _____
- c. (po si tion) _____
- d. (fol low ing) _____

2. Write numbers, have the child look at them, cover them and see if he can repeat them, forward then backwards. This gives practice in sight-recall.

III. VISUAL-MOTOR (EYE-HAND COORDINATION)

1. Rule out vision and perception.
2. Gross to fine motor.

A. Activities (Motor)

1. Sorting.
2. Forms.
3. Sand tray.
4. Sandpaper letters.
5. Nail board.
6. Pick up sticks.
7. Tracing.
8. Phonogram toss.

B. Activities (Visual)

1. Follow with eyes always left-right progression.
2. Follow with finger.
3. Establish movement pattern while child verbalizes the pattern; up, down, right, left, etc.
4. Follow a visual sequence - use flashlight for tracking.

C. Activities (Tactual)

1. Trace over with eyes shut
2. Draw designs in air
3. Board as well as seat work.
4. Sandpaper - screen

D. Coordinated Activities

1. Visual tactual, i.e., see and feel
2. Teacher draws on back while child draws on board
3. Auditory-tactual child says and draws with eyes shut
4. Auditory-visual-tactual child says, draws and teacher draws on back

E. Other

1. Pencils and templates
2. Drawing roads
3. Tracing folds
4. Tracing with copy paper
5. Dot to dot tracing

IV. Ocular Motor Tasks

A. Deficits

1. Light from no light
2. Seeing fine detail
3. Binocular fusion
4. Convergence
5. Scanning

B. Light - No Light

1. Cannot change electromagnetic (light waves) to chemical and electrical signals (fluid in eye to nerve).

C. Seeing fine detail

1. Visual acuity
2. Snellen chart
3. Cataract Tumors
4. Lesion - blind spots

D. Binocular Fusion

1. Suppression of vision
2. Double vision - overlaps of field vision.
3. Telebinocular and Mass. vision test.

E. Convergence

1. Muscular imbalance - cannot focus
2. Uncoordinated movements of eyes
3. Eye training to develop muscles

F. Scanning

1. Natural zig zag, look around room
2. Pursuit - track moving object
3. Systematic learned scanning for reading
4. Erratic eye movements