

AMPLIFIED NEUROLOGIC EXAMINATION

Prepared by:

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AMPLIFIED NEUROLOGIC EXAM

Child with a suspected psychoneurologic learning disability should have the classical neurologic examination plus:

1. A Screen for Visual and Hearing Acuity

2. Evaluation of Gross Motor Coordination

Observe the child:

- a. skipping
- b. hopping
- c. crouching
- d. walk on toes
- e. walk on heels
- f. stand on one foot for 10 seconds (age 6)
- g. stand toe to heel for 5 seconds (age 6-7)
- h. walk on line for 6 feet, toe to heel
forward and backward (age 6-7)

Note:

- a. loss of balance
- b. asymmetry of associated arm swing
 - 1. restriction: indicates spasticity or rigidity
(corticospinal or extrapyramidal dysfunction).
 - 2. excessive outward swing (flailing): indicates
hypotonus (cerebellar dysfunction)
 - 3. athetoid posture: bizarre rotation of arm
and/or flexion or extension of hand
(extrapyramidal dysfunction).
- c. foot placement
 - 1. asymmetry, toeing inward, circumduction:
possible mild hemiplegia
 - 2. excessive eversion or inversion (altered tonus)
- d. lack of esthetic quality.

3. Evaluation of Fine Motor Coordination

Observe child during:

- a. undressing, unbuttoning
- b. tying shoes
- c. rapid alternating touch of fingertips by thumb
- d. door knob rattle
- e. light bulb twist
- f. pencil grasp and use; penmanship
- g. rapid tongue movements
- h. foot tapping
- i. hand grip
- j. inversion of both feet. (Look for similar movements of the hands. See below).
- k. his repeating several times rapidly kitty, kitty, pa - ta - ka. (Accurate reproduction of these sounds generally indicates adequate articulatory coordination)

Note:

- a. on items c,d,e, and i opposite side of the body showing fragmentary movements which mirror those of the test side. These are called abnormal associated movements, mirror movements or synkinesia. After approximately age 8, these movements indicate a lack of normal cortical inhibition. They are often worse on the affected side.
- b. excessive pressure on pencil points; or pencil held too lightly. Fingers placed directly over points; or fingers placed too far (>1 inch) from point. All may indicate a problem with coordination of fine musculature of the hands.
- c. presence of dysdiadochokinesia, noting speed, accuracy, and sequencing of maneuvers

4. Evaluation of Special Sensory Skills

- a. dual simultaneous sensory tests (face-hand testing)

With patient's eyes closed simultaneously

- 1. touch both cheeks
- 2. touch both hands
- 3. touch right cheek and contralateral hand
- 4. touch right cheek and homolateral hand
- 5. touch left cheek and contralateral hand
- 6. touch left cheek and homolateral hand

Note:

1. rostral dominance: failure to perceive hand stimulus when face is simultaneously touched
2. inattention: failure to perceive one stimulus when opposite parts of body are simultaneously touched
3. displacement: grossly defective localization of one stimulus

These all indicate, after about age 5-6, parietal lobe dysfunction

- b. finger localization test (finger agnosia test). Touch two fingers or two spots on one finger simultaneously with patient's eyes closed. He then points to spots touched.

Note:

1. The number of correct responses in 8 trials for each hand. Generally $> 50\%$ (5/8 or more) is considered normal. This test reflects child's orientation in space, concept of body image, praxic ability, sensation to touch and position sense.

c. stereognosis

d. position sense

e. visual figure - ground discrimination. May use A-0 HRR plates and ask patient to trace what he sees.

5. Evaluation of Child's Laterality and Body Orientation in Space.

a. peripheral dominance

Record child's preference during each of the following:

1. sighting (eye)
2. writing (hand)
3. kicking (foot)
4. armfold: dominant arm on top
5. hand clasp: dominant thumb on top
6. clap: dominant hand on top
7. hairwhorl:

right handed - whorl normally on left side of head, clockwise
left handed - whorl normally on right side of head, counter clockwise

- b. "central" dominance (arm extension test). Child stands, arms extended, parallel, eyes closed, fingers separated for 15 seconds.

Examiner uses his own extended fingers as reference points.

Note:

1. Normal response, after about age 8, of slight (1-3 cm) upward and lateral deviation of dominant hand for writing.
2. abnormal response:
 - downward deviation
 - no deviation of either extremity
 - upward deviation of non-writing arm
 - exaggerated upward or lateral deviation of either arm
3. choreoathetoid movements, tremor, abnormal posturing of either extremity

Mature response depends on integrity and maturation of entire motor system.

- c. imitation of gestures

Have child imitate these gestures performed by the examiner:

1. extend little finger
2. extend little and index finger
3. extend index and middle fingers
4. fingertips to chin
5. finger to contralateral eye
6. fist - palm
7. fingertips - palm
8. finger in hole

Note:

1. after age 6-7 right - left confusion, dis-orientation in space. This test reflects ability with finger discrimination, postural praxis, awareness of self image, right-left, front-back, up-down orientation -- all parietal lobe functions.
2. difficulty with five finger manipulation
3. child's mirroring the examiner in terms of hand used for imitative gesture. This is sometimes called echopraxia - a frontal lobe dysfunction and is not considered abnormal until after about age 8.

d. following directions

- | | | |
|---|---|---------|
| 1. show me your left hand | } | Age 6 |
| 2. show me your right ear | | |
| 3. show me your left eye | | |
| 4. Point to my left ear | } | Age 7-8 |
| 5. Point to my right eye | | |
| 6. Point to my left hand | | |
| 7. Touch your left elbow with your right hand | | |
| 8. Touch your right ear with your left hand | | |
| 9. Touch your left knee with your left hand | | |

Note:

1. Aside from correct versus incorrect responses, note also any difficulty with following sequence of directions.

6. Educational Screening

Aim: to get a beginning idea -- how does the child learn? With his eyes, ears, and/or hands. Likewise, where is he having confusion? -- with his eyes, his ears and/or his hands.

a. reading

or graded reading paragraphs
Use Durrell cards (attached). Have patient read orally.
Ask 1 or 2 comprehension questions following

- | | |
|----|-----------|
| #1 | age 6-7 |
| #2 | age 8-9 |
| #3 | age 9-10 |
| #5 | age 10-12 |

Note:

1. reading style
2. confusion with letters b-d, p-q, m-w, n-u-v, h-n, v-y, d-t, s-z.
3. difficulty with sequence of letters in words -- its for sit, three for there, was for saw, etc.
4. omission of letters -- bother for brother, etc.
5. child knows the first part of the word but guesses the last part - grass for grant, children for chicken.
6. does child understand what he reads?
7. can he write the answers to comprehension questions as fluently as he verbalizes them or visa versa.

b. spelling and handwriting

Dictate a sentence from Durrell Cards. Ask child to write it.

Note:

1. spelling errors
2. are any difficulties listed above noted when such an auditory stimulus, not visual, is used. Does child seem more confused when he looks at a word or when he hears it? or both?
3. handwriting and coordination with pencil as already mentioned. Is writing labored, cramped, slow, messy, poorly spaced with irregular letters on and off the lines? Again note letter confusions and reversals. (Writing only his name is not adequate; it is usually too practiced).

c. arithmetic

Use Durrell cards as for reading. Have child do problems on paper.

Note:

1. confusion with number sequences, reversals (e.g. 6 for 9, 14 for 41, etc.).
2. trouble keeping numbers in proper columns

d. auditory memory and sequencing

Use memory for sentences test (attached)

e. visual memory

Show child list of several printed words prepared from appropriate Durrell card (one he is able to read) for 5 seconds. Remove and ask him to recite or write them. For the younger child the same thing may be done, using instead, geometric designs

Note:

1. difficulty with recall of presented material

MEMORY FOR SENTENCES

This test was constructed by E. M. Spencer and reported in her Ph.D. thesis completed at Northwestern University in 1958. Some of the items were borrowed from the 1937 Stanford-Binet. Norms to Age 6 are from Spencer. Norms for higher age levels are from H. MacGrady's Ph.D. thesis completed at Northwestern in 1964.

Procedure: Tell the child: "I want you to say something for me. Say, "Big boy" ("Big girl"). Now say, "I am a big boy" (or "girl"). Now say"

1. I went downtown.
2. Mama is in the car.
3. I am going home.
4. I went outside to pick some flowers.
5. We are going to buy some candy.
6. Jack likes to feed the little puppies.
7. Jane wants to build a big castle in her playhouse.
8. Tom has lots of fun playing ball with his sister.
9. Mama asked Nancy to bring the brown dog in the house.
10. Fred asked his father to take him to see the clowns in the circus.
11. Billy has made a beautiful boat out of wood with his sharp knife.
12. Mama bought Susie a chocolate ice cream cone after the movie yesterday.

If the child hesitates, urge him to try by asking him to "Say it." For objective scoring, it is not permissible to repeat the sentences. Stop testing after three consecutive failures.

Scoring: Misarticulations and contractions do not count as errors. Omissions, substitutions, or additions of words are errors. Changes in word form or word order are also considered as errors. The test score is simply the number of sentences repeated without errors. For qualitative interpretation, the child's responses should be transcribed.

<u>Norms:</u>	<u>Age</u>	<u>Median Score</u>	<u>Age</u>	<u>Median Score</u>
	4-0	5	8-6	10
	4-6	6	9-6	11
	5-0	7		
	5-6	8		
	6-0	8.5		
	7-6	9		

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WORKSHEET FOR EVALUATION OF LEARNING AND LANGUAGE DISORDERS

Department of Pediatrics
Child Study Unit
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San Francisco

Name of Patient: _____ Residence: _____

School: _____ Teacher: _____ Birthdate: _____

Grade: _____ Repeat: _____ Age: _____

School's chief concern (from school report form)

Parent's chief concern (from parent form and history)

Child's chief concern (from history)

From your observations of child during medical history and physical examination,
at what age do you feel the child is functioning? _____

Estimation of child's reading ability for age:	Good	Average	Poor
Estimation of child's spelling ability for age:	Good	Average	Poor
Estimation of child's arithmetic ability for age:	Good	Average	Poor
Estimation of child's language ability for age:	Good	Average	Poor

I. Behavioral Observations:

Rapport: Easily attained _____
Slowly attained _____
Not attained _____

Attitude: Overly cooperative _____
Cooperative _____
Passive resistance _____
Overt resistance _____

Motor Activity: Hyper _____
Average _____
Hypo _____

Verbal Activity: Verbose _____
Average _____
Shy _____
Speech prob. _____

Attention: Close and _____
persistent _____
Variable _____
Inattentive _____

Distractibility: Much _____
Little _____
Almost none _____

Situational Variability: _____
am/pm _____
Structured/nonstructured _____
Male/female consultant _____
With/without family _____
Oral non-oral tasks _____
Academic/nonacademic _____
activities _____
on/off medication _____

Performance: _____
Deteriorates with time _____
Performance is steady _____
Performance fluctuates _____

Performance Speed: Fast _____
Average _____
Slow _____
Variable _____

Tasks Needs: Reassurance _____
Direction _____
Praise _____

Response Control: _____
Overchecks response _____
Checks response _____
Doesn't check _____
Submits gross errors _____

Response to Failure: _____
Increased Activity _____
Distractibility _____
Clowning _____
Denial _____
Indifference _____
Tuning out/daydreaming _____
Fear of risk _____
Somatic complaints _____
Unaware of _____
Accepting of _____

Summary of Coping Behavior:

II. Educational Assessment:

A. WIDE RANGE ACHIEVEMENT TEST (WRAT)

	<u>Grade Level</u>	<u>File</u>
Read (word recognition)		
Spelling (writing dictated words)		
Arithmetic (pencil & paper solution of number problems).		
Actual Grade Level.		

B.	<u>SPEED</u>	<u>COMPREHENSION</u>	<u>GRADE LEVEL</u>
Oral Reading	_____	_____	_____
Silent Reading	_____	_____	_____
Listening	_____	_____	_____

Types of Errors:

Word Attack Skills:

Sound-letter association
Visual recognition
Context clues

Spelling	<u>Grade Level</u>
Oral	
Written	

Penmanship (Writing)	<u>Quality</u>
Single Word	
Sentence	
Printing	
Cursive	

C. General Attitudes

Response to failure
Response to praise

III. PSYCHOLOGICAL ASSESSMENT

A. WECHSLER INTELLIGENCE SCALE FOR CHILDREN - Revised (WISC)

Verbal Scale--All items presented orally; all responses verbal.

1. Information: stored factual information from education and experience.
("How many days in a week?")
2. Similarities: ability to categorize; abstract thinking.
("In what way are a plum and a peach alike?")
3. Arithmetic: mental arithmetic skills, auditory tracking, auditory memory (timed)
("If I cut an apple in half, how many pieces will I have?")
4. Vocabulary: word knowledge and verbal fluence.
("What is a bicycle?")
5. Comprehension: practical knowledge, social judgement, initiative.
("What's the thing to do when you cut your finger?")
6. Digit Span: attention, concentration, immediate auditory memory, number-sequencing forward and backwards
(Visual memory/imagery may be involved)
("Say these numbers right after me 386- say them backwards: 574.")

Performance Scale--All items presented visually; all timed

1. Picture Completion: (verbal response) attention to missing details.
("What important part is missing from this picture?")
2. Picture Arrangement: (Manipulation of cartoon pictures); interpretation of social situations; visual sequencing.
("Arrange these pictures to make a sensible story.")
3. Block Design: (Manipulation of blocks to match picture) synthesis of abstract design; analysis of part-whole relationship; visual perception and motor integration.
("Make one like this.")

Superior 15+	Good 12-14	Average 9-11	Borderline 8-5	Poor 4-
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Performance Scale - cont

4. Object Assembly: (Manipulating puzzle parts; no model presented); reproducing familiar forms from object parts, two dimensional gestalt.
("Put this together as quickly as you can.")
5. Coding: (Pencil copying); hand-eye coordination, visual perception, visual memory, fine motor coordination.
("Fill in as many squares as you can without skipping any until I tell you to stop.")

Superior +15	Good 12 -14	Average 9-11	Borderline 8-5	Poor 4-

Verbal Scale IQ: _____
 Performance Scale IQ: _____
 FULL-SCALE IQ: _____

B. Stanford Binet Intelligence Scale

CA: _____ MA: _____ IQ: _____

Range of Successes _____ through _____ years

Strengths:

Weaknesses:

IV: VISUAL-MOTOR FUNCTION

- A. Bender Visual-Motor Gestalt
 (copying two dimensional designs)

Age Level _____

Types of Errors:

Integration _____
 Rotation _____
 Simplification _____
 Angulation _____
 Perseveration _____

- B. Human Figure Drawing

Age Level _____

Inclusion of detail _____
 Proportion ability _____
 Sophistication of line _____
 Sex of figure _____

C. Developmental Test of Visual-Motor Integration (Beery) Age Level _____

D. Visual attention, visual sequencing and memory
Observations from child interview, educational screening, from WISC, from ITPA and educational evaluation may give information about these skills.

V. RIGHT-LEFT DISCRIMINATION AND SEQUENCING

VI. AUDITORY AND LANGUAGE ASSESSMENT

A. I.T.P.A. - Illinois Test of Psycholinguistic Abilities

1. Conceptual Tasks

Receptive Tasks

Tasks with oral language;
("Do bananas telephone?")

Tasks without oral language;
("See this? Find one here.")

Association Tasks

Tasks with oral language;
("A dog has hair, a fish has _____.")

Tasks without oral language;
("Which one of these goes with this?")

Expressive Tasks

Tasks with oral language;
("Tell me all about this ball, block...")

Tasks without oral language;
("Show me what we do with .")

Superior	Good	Average	Borderline	Poor

2. Rote, Automatic, Perceptual and Integrative Tasks

VII. SPEECH DEVELOPMENT

Articulation
Other

VIII. LEARNING/THINKING STYLES

Abstract/Concrete

Imaginative/Literal

Spontaneity/Tentativeness

Impulsive/Deliberate

Trial and Error/Insight

Approach to Tasks:

Quick/Efficient

Slow/methodical

Slow/disorganized.

IX. PERSONALITY MEASURES

Interview for Children:

Draw a Family:

"If" sentence completion:

Tasks of Emotional Development Test (TEDT - Story Pictures)

Thematic Appreciation Test (TAT - Picture Stories)

Summary Family Strengths and Weaknesses

	Strength	Weakness
<u>Stability in terms of:</u>		
Parents relationship		
Employment -- father		
mother		
Economic positions		
Parent's health		
Number of sibs and health		
Number living at home		
Living space		
Number of moves since birth of patient		
Number of schools for patient		
<u>Sibs relations to patient:</u>		
Supportive		
Over-protective		
Competitive		
Resentful		
<u>Communication:</u>		
Is there room in family to express and share feelings of:		
Love		
Tenderness		
Success		
Failure		
Anger		
Fear or worry		
Disagreement		
Fun		
<u>Responsibility -- Limits for patient</u>		
Has child learned:		
Responsibility		
Accept limits		
Independence		
Parent consistency re limits		
Who responsible for discipline, result?		
Who helps with homework, result?		

strength

weakness

Parents : Understanding of Child's Learning Problem

Present Understanding

Are Expectations for child realistic?

Fears for child's future?

Effect of parents own academic experiences.

Parents Feeling About his/her own Parenting Role

Parents Own Areas of Satisfaction

Child-Peer relationships

In school

Leisure time

Areas of Success for Child

Where successful in parents' eyes

Where successful with peers

Child's special interests or talents

Response of Family to Family Interview

Any insights or understanding gained?

mother

father

sibs

patient

Resistances observed

mother

father

sibs

patient

Family Style

e.g. blaming

supportive

uproar

tranquil

peace at any price

isolated

enmeshed

Initial Teaching LLD Rotation

Why part of core ped teaching

1. Common problem - school difficulties (learning and/or behavior)
Many children are having these difficulties due to problems learning to read and do written work. Going to learn about this.
Also review purposes of study listed on page 4 Monograph II

2. Incidence of children having trouble

Av child	15 - 17%	57% CNS
Av school		10% maturational lag

Inner city child	50-69%	+ cultural and language differences
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3. Develop empathy for patient

Give reversed paragraph to read aloud
Act like teacher

Get feedback

Illustrate two-part reading process - a) decoding
b) understanding message

4. What involved in decoding?

Use "The Story of the Running Dog"
or "The Story of the Digging Pig" Page 25, monograph #1

Emphasize this as a step in language development and discuss:

- a. deviation in language development that cause difficulty
(see pages 27-28 monograph #1)
- b. discuss other CNS skills involved
page 33-40 Monograph #1
Figure 4 - Monograph #1
- c. discuss behavior involved
page 29-31 - Monograph #1

5. Develop empathy for parent

Feelings if had child with problem

- a. initial reaction
- b. feelings as problem continues, fears for child's future,
secret fears regarding cause

Need to see parent alone and discuss these

6. Child's feelings regarding coming here

common worries or misunderstandings children may have as to why they're here

- a. Bad behavior - expecting "lectures"
- b. N.H. or brain damage - expecting surgery or institution
- c. Check up (4 days) - something seriously wrong
- d. To learn to read - expecting to learn by Thursday
- e. Vague or none - stupid or dumb

7. Go over schedule to give birds-eye view - emphasize points on their list of "duties"
8. Remind them to call teacher (get name and school from mother) and get his or her latest concern, questions, and observations regarding the child in class and on the playground. Explain we will be sending a letter.
9. Introduce to parents and to Jan who will tell them where to go and give them beginning of chart.
10. Show them "their room" and where to get coffee.

USEFUL TESTS IN NEUROLOGICAL EXAMINATION OF SCHOOL-AGE CHILDREN

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San Francisco, California
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1. Special Tests for Gait (gross screening tests for general sensory and/or motor dysfunction)

- a. walk on tiptoes
- b. walk on heels
- c. walk on line
 - (1) forward and backward
 - (2) tandem (toe-to-heel): forward and backward
age (6 years)
- d. hopping
- e. skipping

Abnormal:

- a. loss of balance
- b. asymmetry of associated arm swing
 - (1) restriction: indicates spasticity or rigidity (corticospinal or extrapyramidal dysfunction)
 - (2) excessive outward swing (flailing): indicates hypotonus (cerebellar dysfunction)
 - (3) athetoid posture: bizarre rotation of arm and/or flexion or extension of hand (extrapyramidal dysfunction)
- c. foot placement
 - (1) asymmetry (toeing inward, circumduction: possible mild hemiplegia)
 - (2) toe walking (motility disorder: variable origin)
 - (3) excessive eversion or inversion (altered tonus)
- d. lack of esthetic quality

2. Modifications of Romberg Test: items derived from Lincoln-Oseretsky Motor Development Scale (tests for static postural control)

- a. stand on one foot for 10 seconds (age 6)
- b. crouch on tiptoes (age 6)
- c. stand toe-to-heel (age 6-7)

3. Arm Extension Test: (mature response depends on integrity and maturation of entire motor system)

Test in sitting position, arms horizontal and parallel, eyes closed.
Use examiner's fingertips as target.

Normal (after age 8): both deviate upward and laterally,
1-5 cm/20 sec.
Dominant hand for writing deviates
slightly more than non-dominant.

Abnormal:

- a. downward deviation: pyramidal or extrapyramidal dysfunction
- b. exaggerated lateral deviation: cerebellar dysfunction
- c. exaggerated upward deviation: parietal dysfunction
- d. choreo-athetoid movements: basal ganglion dysfunction (?)
- e. altered contour of fingertips (increased curve or irregularity), as observed end-on: basal ganglion dysfunction ("striate posture" of hand also may include flexion at metacarpophalangeal joints, wrist and elbow.)

4. Head Rotation Test ("neck righting response": mature response depends on integrity of entire motor system)

Test standing, eyes closed, feet together, arms extended; head is rotated passively to one side as far as possible without discomfort. Test again by rotating head to opposite side.

Normal (after age 8): chin arm deviates upward slightly; both arms follow chin rotation.

Abnormal:

- a. convergence of arms
- b. downward deviation of either arm
- c. rotation of trunk
- d. paradoxical lateral deviation of occipital arm

5. Abnormal Associated Movements (mirror movements, "synkinesia"): (these movements indicate lack of normal mature cortical inhibition, usually worse on affected side. Such movements are progressively more abnormal after age 8; heterologous movements are especially abnormal).

Observe opposite side for fragmentary movements which mirror those of test side.

- a. grip (opposite fingers may either flex or extend)
- b. clothespin test
- c. touch fingertips to thumb (note also speed, accuracy, sequence)
- d. rotation of forearm
 - (1) test for adiadochokinesis
 - (2) doorknob rattle
 - (3) lightbulb twist

6. Dual Simultaneous Sensory Tests ("face-hand tests" of Bender)

Touch simultaneously, eyes closed: child points to spots tested.

- a. both cheeks
- b. both hands
- c. cheek and homolateral hand
- d. cheek and contralateral hand
- e. opposites of c and d

Name: _____ Age _____

Unit #: _____ Date _____

NEUROLOGICAL SUMMARY SHEET
Child Study Unit, U.C. Medical Center
San Francisco, California

GENERAL APPEARANCE AND BEHAVIOR

GAIT (on line, on heels, tiptoe, tandem, hopping, skipping)

ROMBERG AND OTHER TESTS FOR BALANCE

MOTOR

Hand grip: R. L.

Strength, tone, muscular development

Abnormal movements (tremor, mirror, dystonic, choreo-athetoid)

Coordination (rhythm, speed, precision, alternate movements)

Arm extension test (20")

Head rotation test

REFLEXES

Deep

Superficial

Pathological

SENSORY

Superficial

Deep

CRANIAL NERVES

HIGHER CEREBRAL FUNCTIONS

Dual simultaneous stimulation (extinction, rostral dominance, displacement)

R-L discrimination

Finger localization R ____/8 L ____/8 correct

Imitation of gestures

Dominance

Writing

Throwing

Hand clasp

Telescope

Scissors

Batting

Arm fold

Pinhole

Combing

Kicking

Clapping

Hair whorl

Language and speech

IMPRESSION

RECOMMENDATION

_____, M.D.

BENDER VISUAL-MOTOR GESTALT TEST

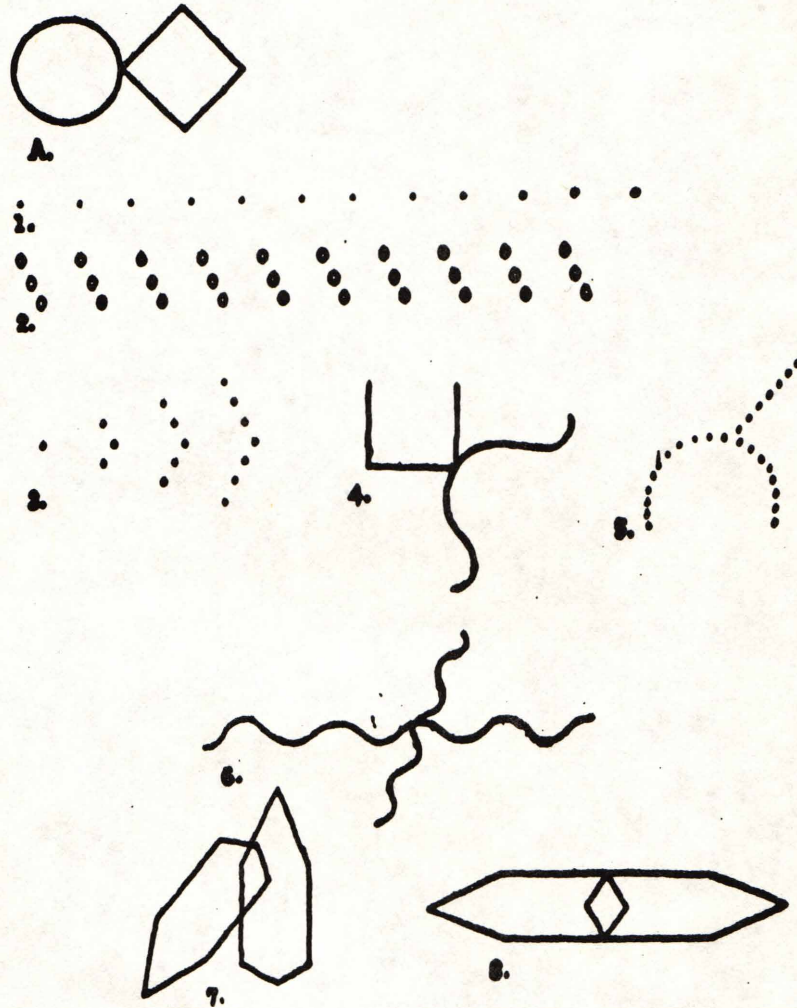


PLATE I. Test figures adapted from Wertheimer.

Abnormal (after age 5-6) parietal lobe dysfunction.

- a. rostral dominance: failure to perceive hand stimulus when face is simultaneously touched.
- b. inattention ("extinction"): failure to perceive one stimulus when opposite parts of body are simultaneously touched.
- c. displacement: grossly defective localization of one stimulus.

7. Finger Localization Test

Touch two fingers or two spots on one finger simultaneously, eyes closed: child points to spots touched (parietal lobe function).

Normal: 5 or more correct in 8 trials on each side.

See Kinsbourne and Warrington for other tests of "finger agnosia".

8. Imitation of Gestures (age 6)

Reflect finger discrimination, postural praxis, awareness of self-image, spatial organization of movement: personal-extrapersonal, right-left, front-back, up-down orientation (parietal lobe functions).

Watch for mirror-image reversal of movements ("echopraxia": frontal lobe dysfunction); probably normal until age 8. Right-left orientation for own hand and leg should be established at age 5 or 6.

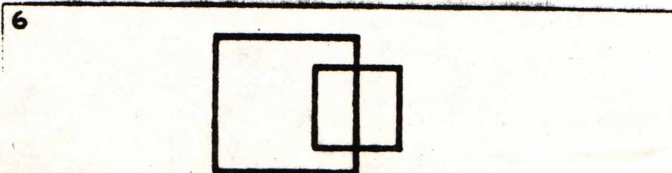
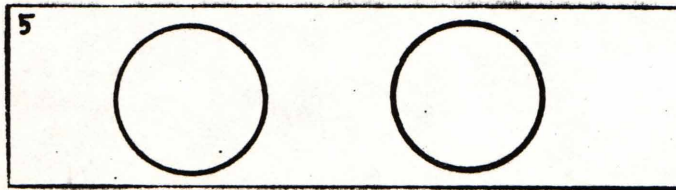
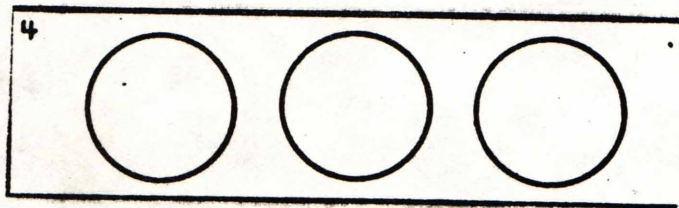
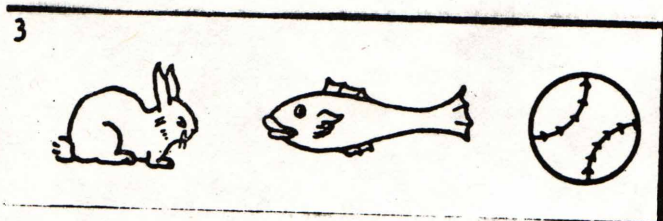
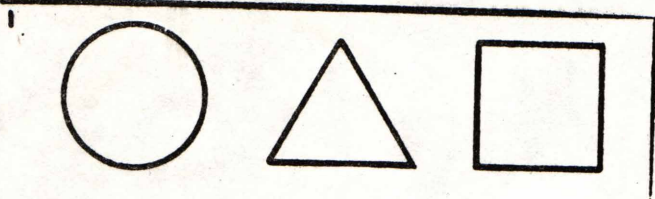
- a. one hand tests
 - (1) extend little finger or thumb
 - (2) extend little and index fingers
 - (3) extend index and middle fingers (Churchill's V)
 - (4) fist-edge-palm test
 - (5) fingertips to chin
- b. two hand tests
 - (1) fist-palm
 - (2) fingertips-palm
 - (3) finger in hole

9. Tests for Cerebral Dominance (doubtful significance)

- a. Interlocking fingers: dominant thumb on top
- b. Fold arms: dominant forearm on top
- c. Clap hands: dominant hand claps on non-dominant
- d. Pinhold test: for dominant eye
- e. Hair whorl (reflects ectodermal placement pattern)
 - Right-handed: whorl normally left side of head clockwise
 - Left-handed: whorl normally right side of head counter-clockwise

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12



Child Study Unit
Department of Pediatrics
U.C.S.F.

Suggested Outline for LLD
Family Interview

Explain purpose of meeting together with the whole family -- try to get across that we find what happens to one family member effects the other family members. As families are going through experiences together they are also sending each other messages about their feelings of pleasure, pain, happiness, sadness, worry, etc. We are going to explore with them how they get these messages across to each other. Early in the interview help them understand that we operate on the basic philosophy that parents are trying to do the best job they can in terms of their own circumstances and understanding -- that we are not going to be judging or blaming or trying to determine who is right and who is wrong.

Observe family communication system and family alliances, how they arrange their seating, who speaks for whom, who supports whom. (see page 49- Marital and Family Therapy - Glick and Kessler - Grune and Stratton, 1974).

It is important very early in the interview to discuss issues that include all family members so that the identified patient is not singled out as the only one talked to or talked about. As much as possible (considering that this is the first interview and perhaps the first time this family has discussed such issues together) encourage statements one family member makes about another to be directed to that member.

Give the family members permission to have feelings, especially "negative" feelings.

e.g. One way to start becoming aware of the family communication system might be to state we all have times when we feel good about ourselves and times when we feel bad -- can each member tell the others in turn how he can tell if they have had a good or bad day at school or work -- what signals does he get -- how does he find out what happened?

This may open up avenues to explore:
This may open up avenues to explore:

1. How husband, wife, children know when each are upset or worried. Do they find out the cause for such? How? What do they do? or How would they like it to go?

2. How much parents and sibs are aware of what child may be feeling in classroom when he can't do his assignments. How would they feel in such a situation? Have them check out with patient if he feels this way.

If family can't come forth with empathy, this may be an area where the student can be supportive and verbally empathasize with patient's situation and feelings and check this out with him.

We find many children with learning problems react to frustration, embarrassment, criticism and teasing with much anger:

3. Explore how this anger is expressed. Can parents accept this? How others in family express anger. How do the parents find out the cause of the anger? What would they like the children to do?
4. Ask parents -- "When you were a child, what did you do when angry? What did you do when worried or frightened? Whom did you go to for help?" The answers may show what practise or help parents had in expressing anger or talking about worries or fears.
5. When the patient and/or sibs are young men or women what do the parents want them to do when angry? (Are parents aware of their goal in this important area of parenting?)

Sometime in the interview -- especially if the discussion has been concentrating on more "negative" kinds of feelings -- it is important to look at more positive areas. Children, like adults, need to have feelings of success. In childhood much of this feeling is the result of parents' reaction to the child.

6. Ask patient and sibs in turn: "Can you tell when mother/father are proud of you? How can you tell? Tell him or her some of the things that make them proud of you."
7. Ask each parent to tell chld and sibs what they do that makes them proud. What do they feel are their good points?
8. As a family what do you do for fun? Do patient and mother or patient and father have any special pleasurable activities they share? Do parents have any pleasurable time with each other? Do parents have time to pursue any of their own interests?
9. Ask each parent to tell:
Where each was brought up?
How many in family and where he or she fit chronologically?
Does he or she remember his/her childhood as basically happy or unhappy and why?
How far did each go in school? How was school in terms of success or difficulty?
Is there any way each would like to parent (raise) their own children differently than the way they were raised? How has it worked out?
10. Parents sometime disagree on some aspect of management of their child. How do the parents differ in the management and discipline of the children? What happens? Who is mainly responsible for discipline?
11. Who helps with homework? How does it go?

12. When the parent says "no" to the child and/or sibs about something they want, what happens?
13. What responsibilities do the children have? What happens if they won't do them?
14. Who in the immediate family do patient and sibs take after? In what way?
15. How do parents understand child's school problem? Do they see it as motivation, lack of ability, lack of teaching? Do they blame themselves, child, teachers? Are they confused by labels such as neurologically handicapped, perceptual problem, dyslexia, brain damage, etc.?

Despite our effort to avoid being judgemental or blaming, parents frequently have unvoiced questions after the interview as to how we are seeing them as parents. If possible, it is good to try to end the interview on a positive note by asking each participant, including the students, where they were especially touched by any family member, family situation, or new understanding.

SUMMARY CHILD INTERVIEW
Child Study Unit
U.C.S.F.

Name _____

Date _____

OBSERVATION

Strength

Weakness

Physical Status and Appearance
Personality
Social Relationship
 with Adults
 with Peers
 with Sibs
Attention Span
Perseverence
Response to Frustration
Ability to Accept Limits
Response to Praise

General Information and Reasoning
Imagination
Special Talents or Interests

Verbal Skills

Articulation
Vocabulary
Syntax
Ability to follow verbal commands

Reading

Oral Grade level (approximate)
Silent Grade level (approximate)
Comprehension
Word attack skills
Use of context clues
Speed

Spelling and Writing

(grade level-approximate)
Letters
Sound-letter association
Sequencing
Pencil Control
Speed

Numbers

(grade level-approximate)
Counting
Addition
Subtraction
Multiplication
Division

Child's View of his Problem:

Coping Behavior:

"What was most frustrating to me was after correctly identifying by guessing the letter and then the word was the awkward inability to recognize the identical symbol in other locations in the sentence. Such words as "and", "the", or "but" were particularly troublesome.

Since words are not familiar when reversed, the reader is compelled to inspect each word in a letter-by-letter fashion. To complicate matters, the reader also encounters difficulty with reversible letters. Says one -- "I did not realize the similarity of a and s; h and n." Can you now understand why on-no and was-saw are mispronounced?

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Physician's Index of Suspicion for Learning Disorders

The weaknesses in the various central nervous system functions involved in learning language skills may be on the basis of developmental deviations in the central nervous system from genetic origin, from insults received during the prenatal or perinatal periods, or during infancy and early childhood. In the medical history, particular attention should be given to the possible clues to central nervous system dysfunction. The physician should develop an INDEX OF SUSPICION. The following clues, each alone, may not lead to specific learning disorder. It is the total profile that is important.

- a. The first is sex. Males are more vulnerable. Obviously this alone won't lead to learning disability.
- b. A family history of reading, spelling, or speech disorders.
- c. Illness or difficulty during pregnancy, including first trimester bleeding or toxemia.
- d. Birth history, including prematurity, any prolonged or precipitous labor or delivery, unusual delivery, perinatal anoxia.
- e. Neonatal course, including sucking ability and general activity in comparison to that of siblings. (A history of poor sucking, excessive sleeping, apathy, or increasing irritability may indicate deviation in central nervous system function.)
- f. Developmental milestones in comparison to siblings, especially speech development and large and small motor coordination. We have found a significant number of children with a history of delayed speech development to have difficulty in academic language skills. Many children with learning difficulties have associated difficulties in large muscle coordination, a history of awkwardness and clumsiness as preschoolers, and at school age poor ability in sports which require skilled coordination, e.g. baseball. Even greater delays are usually apparent in small muscle coordination, when the parents note the child's awkwardness and/or disinterest in coloring, cutting, tying shoes, and using eating utensils.
- g. History of illness that could cause central nervous system insult (central nervous system infections, severe dehydration in infancy) or accidents causing central nervous system injury.
- h. Associated with learning problems and central nervous system dysfunction may be a group of symptoms which make up the hyperkinetic syndrome. Children with this syndrome are usually

brought to the physician as behavior problems. Their symptoms of hyperactivity, distractibility, short attention span, emotional lability, cyclic behavior, low frustration tolerance, poor impulse control, over-reactivity to excitement, temper outbursts, and clumsiness are difficult to live with or even to tolerate in the doctor's office. Relatives and neighbors often make the parents feel as though they are to blame for the child's behavior. Their child's behavior makes them appear as failures as parents and it is easy for them to become quite resentful of the child and results in poor parent-child relationship. When this type of child enters school he can completely disrupt the classroom, and the parents' resentment and anxiety mounts.

The following factors are not necessarily specific to learning disabilities but may severely increase the problems for the child with a learning disorder:

i. Chronic illness and physical handicaps may cause the child to miss much school and get behind in his learning and school work. He may begin to dread school and make destructive use of his illness in a vicious cycle of increasing symptoms and increasing school absence.

j. Unrecognized seizures, especially petit mal and psychomotor seizures, may masquerade as inattention, day dreaming, temper outbursts and bizarre behavior.

k. Cultural factors including different native tongue or dialect, different behavior standards, poor nutrition, insufficient rest, frequent changes of school can present severe handicaps.

In the physical examination, special attention should be given to the child's speech, vision, hearing, and motor coordination. The child with a high frequency hearing loss is unable to hear many speech consonants and may be commonly misdiagnosed since he can hear most environmental noise and the vowels of our speech. These children are frequently accused of not paying attention. Visual difficulties, in the opinion of most ophthalmologists, seldom cause difficulty in learning to read; poor visual acuity, strabismus and astigmatism may contribute to slow rate or fatigue in reading. Observation of the child while buttoning clothes, tying shoes, or his ability to use pencil and paper can be most informative. A preliminary assessment of his visual motor coordination can be made by asking him to:

- Draw the best man he can
- Copy a circle already drawn (at age 3 years)
- Copy a + in imitation (at age 4 years)
- Copy a square (at age 5 years)
- Copy a triangle (at age 6 years)
- Copy a diamond (at age 7 years)

Central Nervous System Functions Involved in Learning to Read, Write and Spell: the child has the task of associating his spoken symbol system (spoken language) with a written symbol system (written language)

1. Language development. A vulnerable child may be one with delayed speech development, speech difficulties, different mother tongue, different dialect from that of the teacher (e.g. the child who says "Disaball" for "This is a ball" may have much confusion when asked to associate his spoken symbol with the written symbol system).

2. Visual perception, visual sequencing, spacial relationships, left-right discrimination. The child must be able to perceive small differences in two dimensional spacial relationships. If the example in Figure 4 in our new alphabet says

"Oh oh look!
See the dog.
See the pig.
See them dig."

the child may easily confuse the symbol sequences for "dog" and "pig" and "dig" because of the similarities of our new alphabet symbols for "d", "b", "p", "g" and for "o" and "i". Our own alphabet presents the same confusion - e.g. "d", "b", "p", "q", "g", "9" and "6" all being variations of the theme of the vertical line and circle. There are many more confusing spacial relationships--in fact, it almost seems perversely designed for confusion - e.g. "m", "n", "h", "u", "m", "w", "c", "e", etc. etc.

3. Auditory discrimination and auditory sequencing. The child must associate the sound with the symbol and therefore must be able to perceive small differences in sounds in beginnings and endings and the middle of words. Some children have great difficulty distinguishing the difference - for example, between the vowels in "pin" and "pen" or the last consonant in "spend" and "spent".

4. Visual and auditory memory. The child must store these two-dimensional spacial relationships of written symbols and their sequences in the part of the brain concerned with memory so that when he is asked to recognize or spell a given word he can recall the shapes of the individual symbols and their sequence.

5. Small motor coordination, aphasia, praxia, left-right discrimination. Through the functioning of the motor and sensory nerves controlling the small motor coordination of his fingers, the child must be able to push a pencil in the many different directions on paper to reproduce these shapes, and in proper sequence.

6. Auditory and visual and tactile kinesthetic tracking. In order to teach pupils to read, write and spell, teachers must explain the task to her pupils via verbal directions, visual examples and tactile kinesthetic demonstrations. Children vary in their ability to follow and remember these sequences. One of the most common problems we have observed is the difficulty of some children to remember a verbal explanation (auditory tracking), especially if it is lengthy and involves remembering several different chores--e.g. "Now children, get out your lined paper and your pencils, print your names in the left hand corner and the date in the right hand corner. Now, copy the whole list of words from the board and put a line under only the words that begin with "b"." By the time the teacher finishes the explanation the child has forgotten the beginning part of the instructions and he either completes only part of the task, distorts the task, or sits in utter confusion and sooner or later disturbs the class (and the teacher).

The child should also be able to:

1. Sit still
2. Attend to incoming stimuli
3. Sort visual, auditory and tactile kinesthetic stimuli from the background of distracting sight, noise and movement in the classroom
4. Maintain some measure of impulse control
5. Tolerate some frustration
6. Wait a reasonable time for a gratification

These abilities are the result of the interaction of the child's developing central nervous system function and his environment, so that lack of these abilities may result from both - i.e. the child hasn't been taught to manage these prerequisites or his developing central nervous system makes this teaching by the parents unusually difficult.

The physician seeing preschool children should be evaluating (from questioning the mother and his own and his nurse's observations in the waiting room as well as his office) the child's activity level, attention span, impulse control, the ability to wait for gratification and the ability to tolerate some frustration. If the child has unusual difficulty, he may be more vulnerable to school difficulty and he and his parents may require help in this area before he is subjected to the stresses of an ordinary 1st grade (or before he stresses the teacher!)

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CHILD STUDY UNIT APR 18 1972

NRC

READERS' DIALOGUE

TEN MINUTES AS A RETARDED READER
(The Effects of an Induced Reading Disability)

Those of us who teach reading and have not ourselves experienced difficulty while learning to read, understand the problems and frustrations faced by these readers only through our vicarious experiences with them. Even armed with such knowledge and first hand observations many people cannot really grasp what the beginning reader or the poor reader experiences as he attempts to read. Because this is so, we may be too quick to admonish a child for his poor performance, ignore or remain insensitive to the behaviors which are indicators that help is needed.

While reading a study on the analysis of word recognition errors by Tinker and Goodenough¹, this writer realized that the mirror reading procedure they employed might well provide an individual with a first-hand encounter with a reading problem. This procedure places the mature reader in a situation whereby he experiences, for a short time, the problems and frustrations of a poor reader.

The original materials employing this idea were produced by typing suitable material on the wrong side of a spirit duplicator master. Copies made from this master were then mirror images of the original. Used in the college classroom or workshop sessions, the participants were asked to team up with a partner. One person was given the reversed copy and his partner was given the standard copy. The "pupil" was directed to read to his partner and the partner was to help his pupil in whatever means seemed appropriate. In addition, they were asked to be cognizant of their reactions to the activity. After about ten minutes the roles were changed and different material was used for the "new" pupil. Following the reading by both members of the team, the group then discussed the reading problems encountered, what caused them and the feelings evoked by the experience.

Comments by the participants have been collected since the inception of the procedure at Syracuse University in 1965. Some of these reactions are reported below as examples of the effects of the induced problem.

¹ Tinker, Miles and Goodenough, Florence. "Mirror Reading as a Method of Analyzing Factors Involved in Word Perception," *The Journal of Educational Psychology*, 22 (October, 1931) 493-502.

Letters and Word Recognition

Reversed printed material disrupts the reader's orientation and places him in a situation requiring decoding. So occupied, the reader then experiences "reading" in almost total absence of skills normally at his command.

Since words are not familiar when reversed, the reader is compelled to inspect each word in a letter-by-letter fashion. To complicate matters, the reader also encounters difficulties with reversible letters.

... I did not realize the similarity of *a* and *s*; *t* and *d*. Had difficulty with *p*, *d*, *b*. Can now understand why *and*—*said*; *on*—*no* and *was*—*saw* are mispronounced.

... What was most frustrating to me was after correctly identifying or guessing the letter and then the word, was the awkward inability to recognize the identical symbol in other locations of the sentence. Such words as *and*, *the*, *as*, or *but*—were particularly troublesome.

Phrasing and Fluency

As the task continues, the reader finds that his problems have only begun.

... I hesitated at almost every word because I had great difficulty with visual discrimination. I began spelling out words to determine what each letter "said" so I might unlock the meaning of the entire word. I resorted to finger pointing to keep my place in a maze of unfamiliar print. I could not trace a line with my eye alone from right to left. I guessed words, repeated words and phrases continually.

... I found myself pointing at every letter and each word not only to trace it but to keep my place. I guessed, repeated, reversed, inverted, and giggled. To be specific, I became entirely frustrated.

Most readers spelled out the words, some used the beginning and ending of a word along with context, few readers were able to employ structural analysis skills in this situation. Participants found that it was nearly impossible to attain fluency when operating at this level.

Print Size and Clarity of Type

Unexpectedly these two factors were a concern to the mature reader. Usually there are comments indicating that the type was too small or that their copy was not clear enough.

... At the same time all of the words were so close to each other, that they were hard to recognize. Each appeared blurry causing some letters to look like others. For example *o*'s looked like *a*'s, *f*'s like *t*'s, *b*'s like *h*'s, etc.

... It would have been a help to have the print considerably enlarged.

When the paper is reversed and read through the back side, so the same material can be read in its normal order, these same problems do not manifest themselves.

Other Reactions

Rate is greatly reduced by the slow analytical process. There is no fluency and the lack of comprehension plagues each reader.

An analysis of feelings is always a fruitful avenue of discussion. Members of these groups live through a totally frustrating situation, they are how they act under tension, how they reacted when someone walked around and looked over their shoulders, and how they felt when the ordeal was over. Once after about four minutes of reading one teacher slammed down the paper and refused to go on. Almost all feel the strain.

... I gave up quite easily. After the test I was quite weary and felt headachey.

... I was unable to attach meaning to many of the words and use expression. This caused me to become tired and disinterested.

... This nervousness, insecurity or frustration was shown by pointing with my pen and glancing up to see if I were being closely observed by the teacher.

... I now can really feel strong sympathy toward children who are faced with a similar situation 180 days a year.

While the reactions vary within each group, most observations can be related to the problems and needs of people learning to read. Descriptions of the problems of poor readers, once strictly academic, now are personal events. Teachers can begin to relate their experiences with reading difficulties with specific classroom practices. No one doubts the futility of having a reader try to cope with material that is too difficult, and few will still use the rationalization that it is good to make the pupil struggle to this extent in the learning process. That which was incompatible with our former experiences is now personally verified as real.

... When I was the teacher, I kept thinking surely it's not that difficult. I'd tell my partner the same words, and the same letters over and over.

... But, when actually trying to read the material, I became quickly frustrated and tired. I laughed, looked around to see the reaction of other people, became fidgety. . . .

The whole process was like trying to read a language foreign to me.

Dr Robert E. Leibert,
University of Missouri,
Kansas City

"What was most frustrating to me was after correctly identifying by guessing the letter and then the word was the awkward inability to recognize the identical symbol in other locations in the sentence. Such words as "and", "the", or "but" were particularly troublesome.

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$\downarrow \uparrow < \sim \Delta c \quad \sim \Delta \downarrow \sim \Delta G G'$

↓↑ < ∪ ∆ b ∩ ∇ c ∇ c ∇ b

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Educational Screening

Ask child:

What is an orange? (6 yr/8 yr)

Is it morning or afternoon--how can you tell?

Count by 2's and 5's. (7 yr)

What day is it today? (7 yr)

Name days of week. (7 yr)

Name months of year. (9 yr)

Ask child to print/write name.

Copy forms.

Age - write.

Tell his birthday and attempt to write month (abbreviated), day.

Tell address - ask child to attempt to write it, see if he has any idea about sound letter associations.

Tell telephone number and write it.

Print alphabet in small letters.

Oral Reading

See form. Ask some questions to see if child understands what he read.

E.g. on #1 - might ask what do you think happened next?

#2 - Do you think this is about a girl or boy? What is she going to do tomorrow in this story?

#3 - Where do their cousins live?

#4 - How many boys came home happy? etc.

Silent Reading

See form. You will need to supply child with red and blue pencils and box with button and string.

Have child read silently - if he asks for help, tell him to do the best he can. After he has tried to carry out the directions, it is alright to clarify which words gave him trouble.

Spelling

See words and sentences on oral reading form. Usually sentence dictation is more informative. Try some words orally that child misspelled in writing.

Carrying Out Oral Commands (see forms)

Visual Sequence Memory

Start with three objects - increase by one, if successful;

then three shapes - increase by one, if successful;

then three letters - increase by one, if successful.

If there is time, try some Math Combinations

7 year old - add and subtract 1 digit numbers
8 year old - learning borrowing and carrying
9 year old - simple multiplication
10 year old - simple division
12 year old - long division, fractions.

End interview by giving child some feedback regarding success and difficulties.
Be sure to go over the rest of the weeks schedule with him.

Explain about the TV demonstration on Thursday.

INTERVIEW FOR CHILDREN

NAME _____ AGE _____

1. Favorite things you like to do.
2. What do you dislike to do?
3. Think of your favorite friend - what you do together - why you like him.
4. Think of a person you don't like. What things about him don't you like?
5. What do you especially like to do with father? With mother? With brothers and sisters?
6. How do you feel about school?

7. Think of a time you were happy. Tell me all about it. What was it like?
What did you do?

Angry

Afraid

Sad

Suppose you were going away to live on a desert island, and could only take three people with you. Name the three people you would choose:

- 1.
- 2.
- 3.

If you had three wishes which would be granted, what would you wish for?

- 1.
- 2.
- 3.

Way that you would like to be different ---

Way that your mother would like for you to be different ---

Child Interview

Ask child:

Describe what you do on a school day from the time you get up in the morning until you go to bed at night.

Start child off by asking what time he wakes up, who awakens him, what he does first, next, etc.

From his description, you may get some ideas about:

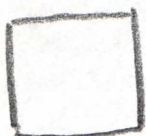
1. Child's ability to tell in understandable words a sequence of events.
2. What he omits may be significant, e.g. leaving out the time in class or lunch time, or recess where he may be having trouble.
3. Whether or not he has friends to play with.
4. Type recreation - active/passive.
5. Responsibilities and chores.
6. Scheduled or unscheduled homelife.
7. Time with parents.

NAME

AGE

BIRTH DAY

ADDRESS



DICTATION



Warrant Bond
25% COTTON FIBER

ORAL COMMANDS - PAPER & PENCIL RESPONSE

88

Detroit Tests of Learning Aptitude

Material:—A page of figures, letters, words, and digits arranged in a series of seventeen sets, given on page 13 of Pupil's Record Booklet.

Procedure:—Place the sheet before the subject. Give the directions for each set *slowly* and *very* clearly without special emphasis on any word or phrase. Be sure that the subject waits until the directions for a given set are *completed* before he is permitted to start. Say, "You see this page. I am going to tell you some things to do with what you see on this page. Now, listen carefully, and *each time after I get all through, you do just exactly what I have said to do.* Be sure to wait each time until I finish and say, 'Do it now.' Look at No. 1. It has three drawings." (Point to all three in the pupil's booklet. Pause.)

Give directions for each set as indicated below. Say, "Stop" at the end of each time allowance. Any set must be entirely correct for credit.

It is best to call attention to the next set by saying, "Look at No. 2," "Look at No. 3," etc., throughout the test.

Continue through three successive failures.

Time allowance is 10 seconds each for numbers 1 to 6, inclusive.

1. Put a one in the circle and a cross in the square box. Do it now!

2. Draw a line from the thimble to the star that will go down under the comb and up over the hammer. Do it now!

6 yr
6 yr

3. Be sure to wait until I get all through. Draw a line from the rabbit to the ball that will go up over the fish, and put a cross on the fish. Do it now!

4. See the three circles. Put a number two in the first circle, a cross in the second circle, and draw a line under the third circle. Do it now!

5. Draw a line from the bottom of the first circle to the top of the second, and put a cross in the second circle. Do it now!

6. Put a three in the part that is the large box only and a cross in the part that is in both boxes. Do it now!

Time allowance is 15 seconds each for numbers 7, 8, and 9.

7. This drawing is divided into parts. Put a number one in the biggest part; a number two in the smallest part; and a three in the last part. Do it now!

8. Draw a circle around the pig, a line under the apple, and make a cross on the cow. Do it now!

9. Draw a line under the letter F. Cross out the letter K, and draw a line above O. Do it now!

Time allowance is 20 seconds each for numbers 10, 11, and 12.

10. Cross out the number that is three times five; cross out every number that is in the thirties; and cross out the largest number. Do it now!

7 yr

7 yr

8 yr

8 1/2 yr.

9 yr

10 1/2 yr

11 1/2 yr

Omit

11. Put the first letter of the first word in the first circle; the second letter of the first word in the second circle; the last letter of the first word in the fourth circle; and the last letter of the last word in the last circle. Do it now!

12. Put a cross in the big square; a letter F in the triangle; a number four in the little square; and a letter H in the big circle. Do it now!

Time allowance is 30 seconds each for numbers 13 to 17, inclusive.

13. Cross out a number that is eight times eight; the number one less than one hundred; the number that is five times five; the number in the fifties; and the fourth number in the line. Do it now!

14. Put the last letter of the second word in the third circle; the first letter of the third word in the fifth circle; and the second letter of the first word in the last circle. Do it now!

15. Draw a line under the letter after S; cross out J and V; and draw a line over the first letter before O. Do it now!

16. Put the third letter of the alphabet in the third figure; a six in the diamond; the letter L in the first circle; a number four in the triangle; and the first letter of the alphabet in the last figure. Do it now!

17. Cross out the even number in a square; the odd number in the second triangle; the number in the third circle; the

13 yr

14 yr

biggest number that is in a square; and the number in a circle before twelve. Do it now!

Scoring:—

Credit as follows:

Items 1-6, 1 point each	Items 10-13, 3 points each
Items 7-9, 2 points each	Items 14-17, 4 points each

Consult key.

Maximum Score: 40 points.

18 ORAL DIRECTIONS

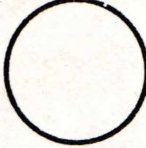
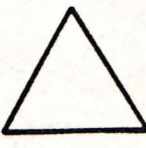
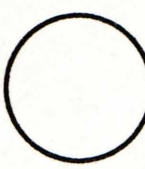
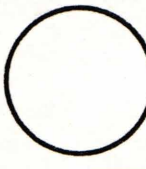
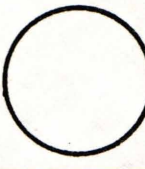
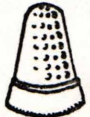
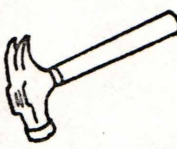
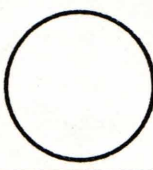
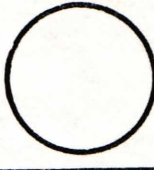
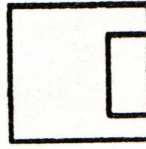
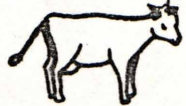
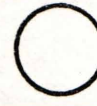
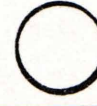
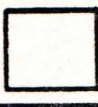
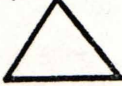
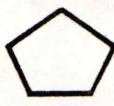
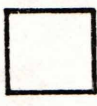
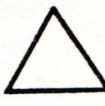
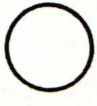
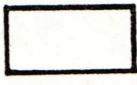
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2	  	5	 					
3	  	6	 					
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1		2		3				
8	    							
9	A B C D E F G H I J K L M N O P Q							
10	6 7 18 27 42 7 72 10 3 4 48 56							
11	(M) (A) () (N) (B) MAN BOY HER COMB.							
12	(H) (+) () () (F) (4)							
13	9 7 41 7 95 6 31 27 47 82 7 68							
14	() () (G) () (H) () () (A) CAT JUG HORSE FIST							
15	H I X K L M N O P Q R S T U X W X Y Z							
16	(L)  (C)  (4)  ()   (6) (A)							
17	(7) (4B) (8) (X) (X) (X) (X) (X)							

18. Oral Directions

(See pages 87-91 of Handbook)

13

Score.....

1	  	4	  
2	   	5	 
3	  	6	 
7			
8	    		
9	A B C D E F G H I J K L M N O P Q		
10	82 67 18 27 42 15 72 10 34 36 48 56		
11	     MAN BOY HER COMB		
12	     		
13	99 52 41 71 93 64 31 27 47 82 25 68		
14	        CAT JUG HORSE FIST		
15	H I J K L M N O P Q R S T U V W X Y Z		
16	         		
17	       		

ORAL COMMISSIONS

about
age 5 yr

Put this pen on the desk, then knock on the door, then clap your hands.

Bring me that book, then open the door, then sit on the chair.

about
age 6½ yr

Walk to the door, turn the doorknob, tap the floor one time with your foot then tell me your 1st name.

about
age 8 yr +

Bring a blue book from the book shelf, put it under my chair, take this pencil, walk to the bookshelf and tap it three times, come back to the table (or desk) draw a circle and print your name in it.

Follow-Up Study
Parent Form, P.1

PARENT FOLLOW UP STUDY

CHILD'S NAME _____ SCHOOL _____
ADDRESS _____ ADDRESS _____
BIRTHDATE _____ GRADE _____

1. What did you learn from the study--

(a) about your child's strengths?

(b) about his problems?

2. How clearly were the findings explained to you?

(a) by the doctors _____ very clear
_____ somewhat clear
_____ not clear

(b) in the letter

_____ very clear
_____ somewhat clear
_____ not clear

3. Were any questions not answered clearly enough? (explain)

4. Did you have any questions after the study?

5. What did you think about the recommendations?

_____ agreed with all
_____ agreed with some
_____ agreed with none

Please list any recommendations you did not agree with:

6. What steps have you taken since the study? (check all that apply)

☐ discussed results with school staff
☐ discussed results with our doctor
☐ arranged for a different placement at school
☐ changed how we deal with child at home (explain)

☐ contacted community agencies (list them)

☐ started counseling or therapy sessions
☐ had follow up contact with Child Study Unit
☐ arranged for out-of-school tutoring or other activity (describe)

☐ put child on medication
☐ re-read the letter
☐ other steps (list)

7. Have you had any problems in following the recommendations? (specify)

8. Since the study, have you seen any changes in---

(a) your child's school behavior? (describe)

reasons for change?

(b) your child's learning? (describe)

reasons for change?

9. What changes have you seen in your child's home behavior since the study?

reasons for change?

10. What pleased your child most about the study?

11. What bothered him most about the study?
12. Do you think any changes should be made in the study? (specify)
13. Would your child want any changes made in the study? (specify)
14. Would you recommend this type of study to another family?
15. Would you give us permission to obtain reports on your child's progress from the school and/or other agencies?
- Yes _____ No _____
16. Please add any comments you wish to make on the other side of the page.

signed _____

date _____

Follow Up Study
School Form, P.1

Name _____

School _____

Address _____

Address _____

Birthdate _____

Grade _____

Type of class _____

Teacher _____

Principal _____

Guidance worker _____

1. Have you read copies of our

(a) summary letter? yes _____ no _____

(b) psychological test report? yes _____ no _____

(c) speech and language report? yes _____ no _____

(d) educational evaluation? yes _____ no _____

If you have not read the reports yourself,

has anyone discussed them with you? yes _____ no _____

Were the findings clear? yes _____ no _____

Were the recommendations clear? yes _____ no _____

2. What changes, if any, have been made in this child's school program as a result of this study?

Did anything stand in the way of making these changes?
If so, explain.

3. To what extent have the results of the study been useful?

	very useful	somewhat useful	not useful	don't know
Physical examination				
Neurological examination				
Child behavior observations				
Background data				
Family pattern				
Psychological tests				
Speech evaluation				
Language evaluation				
Educational evaluation				
Other studies (list)				

4. Please estimate the grade level and class rank at which the child is now functioning.

	<u>GRADE LEVEL</u>			<u>CLASS RANK</u>		
	below level	normal for age	above level	upper third	middle third	lower third
Reading						
Spelling						
Arithmetic						
Penmanship						
Written work						
Oral work						

5. What do you see as the child's main strengths in learning?
6. What do you see as his main limitations in learning?
7. What contacts have you had with the child's family since the study?
8. List any changes you have observed in the child's attitudes and behaviors in the following areas:

Reading

Spelling

Arithmetic

Penmanship

Written work

Oral work

9. Does the child display any of the following behaviors to a greater extent than most of his peers?

distractibility	yes	no
hyperactivity	yes	no
daydreaming	yes	no
short attention span	yes	no
temper outbursts	yes	no
deviant speech pattern	yes	no
other behavior (specify)	yes	no

10. How well does the child get along with---

	very well	adequate	fair	variable	poor
(a) classmates?					
(b) teachers?					
(c) other school staff?					

11. What are your main concerns about the child at this time?

12. What changes would you like to see in our 4-day study?

13. Would you recommend our 4-day study to another family? yes___ no___

14. Whom can we contact for more information about this child?

15. Additional comments:

signed _____

title _____

date _____