CHAPTER 14

THE PRACTICE OF DIAGNOSING LEARNING PROBLEMS

1. INTRODUCTION

In this chapter the procedures for an orthodidactic practice of diagnosis are discussed. What was discussed in Chapter 7 about diagnosis also holds for the diagnosis of learning problems since the orthodidactician will not view the learning problem only as a symptom but wants to understand the child as a person in his total situation. The media previously mentioned also are applicable.

2. THE EDUCATIONAL PSYCHOLOGICAL (ORTHODIDACTICAL) PRACTICE OF DIAGNOSING LEARNING PROBLEMS

2.1 Introduction

The aim of orthodidactic diagnosis is to determine the nature and scope of a specific learning problem as a constituent of the disharmonious dynamics of teaching with the aim of harmonizing the dynamics.

The following media or aids are useful to an orthodidactician.

2.2 The historicity conversation

During the conversation with respect to a child with a learning problem the orthodidactician has to determine what meanings the child has attributed to the school, subject matter contents, teachers, his parents and himself; in other words, there is an attempt to arrive at an understanding of the specific child's disharmonious teaching situation.

To help with this, a child should not be tested merely for quantitative results regarding his learning problem but rather the orthodidactician needs to establish a relationship of trust with the child in order to be able eventually to come to scientifically founded conclusions regarding his role in the disharmonious teaching. As aids for establishing a relationship of trust and for evaluating the

quality of the actualization of specific personal dimensions and modes of learning, the following media, among others, are used.

2.3 Performance media

Observation is not merely viewing a child during a testing situation but aims to interpret and understand the ways in which a child is involved with his world as a manifestation of the meanings he attributes to it (See Chapter 6 and 7, section 2.6).

There are various components that need to be observed in the research situation. The most important is the way in which the child deals with new tasks and whether he accepts instructions and directions. There also is the opportunity to determine how he experiences himself in a formal interpersonal situation. Ekwall and Shanker (1985: 317) say [in English] "Careful observation during the teaching-learning process is most helpful in identifying students with severe reading disability". How does he handle failure--is he calm, self-possessed and ready to continue or has he lost all motivation and perhaps is anxious or even angry?

While carrying out tasks it also is possible to observe how his learning occurs, especially attending and ways of solving problems as a result of his thinking, visualizing and remembering. The media used for this purpose are not standardized because of the fact that each person has an individual style of dealing with a task.

The types of media in this category require problem solving in a practical framework by dealing with concrete materials such as blocks, jigsaw puzzles, figure copying and drawings. In Figure 1 an explanation is given of which modalities of actualizing learning are brought about by each performance medium.

2.4 Intelligence media

The various items on intelligence tests are compiled to determine what intellectual potentialities are at a child's disposal (See Chapter 7, section 3.6) and how he actualizes his verbal and non-verbal abilities by means of his modes of learning as now will be indicated.

Vocabulary items usually are included to serve as an occasion for a child to express his ability to remember and apply knowledge as well as to determine how concretely or abstractly he can think.

Figure 1

Learning actualization Modalities	Performance media						
	1	**2**	**3**	**4**	**5**	**6**	**7**
Modes of learning							
attending	x	x	x	x	x	x	x
perceiving	x	x	x	x	x	x	x
thinking	x	x	x	x	x	x	x
visualizing	x	x	x		x	x	
memorizing							
remembering	x	x	x	x	x	x	x
Sensory-motor							
gross motor							
fine motor	x	x	x	x	x	x	x
tactual	x	x				x	
kinesthetic							x
laterality	x	x	x		x	x	
sensory-motor coordination							
Visual perception							
sensory-motor integration	x	x	x	x	x	x	x
figure-ground		x	x				
analyze-synthesize		x	x	x		x	
sequencing		x	x				
discrimination		x	x				
spatial orientation	x	x	x	x	x	x	x
remembering							
closure		x	x				
Auditory perception	Not applicable						
sensory-motor integration							
figure-ground							
analyze-synthesize							
sequencing							
discrimination							
remembering							
closure							

1 = cut out, color in
2 = building blocks
3 = jigsaw puzzles
4 = copying figures
5 = drawings
6 = Wiggly Blocks
7 = Guide-it

Items also are included to evaluate his conceptual and verbal reasoning abilities, analytic thinking and the ability to reach conclusions, e.g., with the "Comprehension" and "Verbal Reasoning" items of the SSAIS and "Ready Knowledge" and "Word Associations" of the JSAIS.

Logical thinking, concentration and rapid abstract reasoning are modalities needed for computations on the "Problem" items of the SSAIS and "Number and Quantitative Concepts" of the JSAIS.

Attending and remembering sequences are necessary on the memory items "Memory of Numbers" and "Story Memory".

With some items abstract thinking is activated by visual materials and the solution to a problem has t be conveyed in a visual-motor way, e.g., with "Pattern Completion" on the SSAIS.

The performance of some non-verbal items requires an integrated activity of analytical and synthesizing perception, thinking and acting; for example, with the "Block Design", "Absurdities" and "Form Board" items of the SSAIS and "Form Board", "Block Patterns", "Absurdities A and B" and "Form Discrimination" on the JSAIS.

The nature of a child's actualization of learning thus can continually be observed in his dealing with the items and the quality of his achievement on the intelligence tests is an indication of the quality of his personal actualization.

Intelligence tests that are standardized in South Africa are the Senior South African Individual Scale (SSAIS) for children between 5 and 18 years; the Junior South African Individual Scale (JSAIS) for children between 3 and 7 years; and the Old Individual Scale of the National Bureau of Educational Research. Also available is the Peabody Picture Vocabulary Test (Dunn and Dunn, 1981), the revised Wechsler Intelligence Scale for Children (1974) and the Griffiths Mental Development Scales for children from 0 to 8 years.

The reason for using intelligence media, in addition to determining a child's cognitive potential, is " ... to observe the way the student works and to observe and analyze performance on various subtests" (Ekwall and Shanker [in English], 1985: 250).

In Figures 2 and 3 an explanation is given of which modalites of actualizing learning are required by items of the SSAIS and JSAIS.

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Figure 2

Learning actualization Modalities	Intelligence media (Senior South African Intelligence Scale SSAIS)								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Modes of learning									
attending	x	x	x	x	x	x	x	x	x
perceiving	x	x	x	x	x	x	x	x	x
thinking	x	x	x	x	x	x	x	x	x
visualizing				x		x	x		
memorizing				x	x				
remembering	x	x	x	x	x			x	
Sensory-motor									
gross motor						x	x		x
fine motor									
tactual							x		x
kinesthetic									
laterality									
sensory-motor coordination									
Visual perception									
sensory-motor integration						x	x		x
figure-ground									x
analyze-synthesize						x	x		x
sequencing							x		
discrimination							x		x
spatial orientation						x	x		x
remembering								x	
closure						x	x		x
Auditory perception									
sensory-motor integration					x				
figure-ground analyze-synthesize			x	x	x				
sequencing				x	x				
discrimination	x								
remembering	x								
closure	x		x		x				

1 = vocabulary
2 = comprehension
3 = verbal reasoning
4 = problems
5 = memory
6 = pattern completion
7 = block design
8 = absurdities
9 = form board

Figure 3

Learning actualization modalities

Intelligence media (Junior South African Intelligence Scale JSAIS)

	1	2	3	4	5	6
Modes of learning						
attending	x	x	x	x	x	x
perceiving	x	x	x	x	x	x
thinking	x	x	x	x	x	x
visualizing	x					x
memorizing				x	x	
remembering		x	x		x	
Sensory-motor						
gross motor						
fine motor	x					x
tactual						
kinesthetic						
laterality						
sensory-motor coordination						
Visual perception						
sensory-motor integration	x					x
figure-ground analyze-synthesize	x					x
sequencing						x
discrimination	x					x
spatial orientation	x					x
remembering				x	x	
closure						
Auditory perception						
sensory-motor integration				x		x
figure-ground analyze-synthesize			x	x	x	
sequencing				x	x	
discrimination		x	x	x		
remembering		x	x		x	
closure		x				

1 = form board
2 = vocabulary
3 = ready knowledge
4 = number and quantitative concepts
5 = memory for numbers
6 = block patterns

Figure 3, continued

Learning actualization modalities	Intelligence media (Junior South African Intelligence Scale JSAIS)					
	7	**8**	**9**	**10**	**11**	**12**
Modes of learning						
attending	x	x	x	x	x	x
perceiving	x	x	x	x	x	x
thinking	x	x	x	x	x	x
visualizing						
memorizing	x					
remembering	x		x	x		
Sensory-motor	Not applicable					
gross motor						
fine motor						
tactual						
kinesthetic						
laterality						
sensory-motor coordination						
Visual perception						
sensory-motor integration						
figure-ground				x	x	
analyze-synthesize				x		x
sequencing						
discrimination						x
spatial orientation				x	x	x
remembering				x	x	
closure				x		
Auditory perception						
sensory-motor integration						
figure-ground						
analyze-synthesize	x		x			
sequencing			x			
discrimination			x			
remembering	x	x				
closure	x					

7 = story memory
8 = picture puzzles
9 = word associations
10 = absurdities A: inadequate parts
11 = absurdities B: absurd situations
12 = form discrimination

2.5 Expressive and projective media

The use of these media for analyzing, evaluating and diagnosing the disharmonious dynamics of teaching especially have the aim of determining what meanings the child has attributed to his specific teaching situation and thus to particularize the related dysfunctional activities. The nature of a child's communication by these media also is an indication of the quality of his learning, namely the ways in which he orders and structures the contents, the concrete or abstract nature of his thinking, his creativity and abilities to fantasize.

When it is kept in mind that language is the carrier of meanings (See Van Niekerk, 1986: 270-275), it is obvious that his use of language, verbally or in written form, while these media are used has to be analyzed thoroughly. At this stage of the investigation it is clear that there has to be an evaluation of the child's use of language.

2.6 Language evaluation and diagnosis

Here the learning outcome of the instrumental skills is scrutinized to evaluate the child's ability to interpret sensory material and to express it in verbal or written form.

Reading materials and writing assignments are used as test material. Word attack, speed reading and computational speed are evaluated in comparison with his age and grade level.

Standardized reading tests provide a quantitative image of a child's skills regarding word recognition, reading speed and comprehension. Tests available in South Africa are the Individual Diagnostic Tests of reading and language (Afrikaans) by the Transvaal Department of Education and the Neale Analysis of Reading Ability (Neale, 1977). The Human Sciences Research Council also is involved with developing a reading assistance program.

Informal media provide the opportunity for a qualitative evaluation of a child's reading skills with paragraphs and graded lists of words.

The following step (as particular and sequential steps can be distinguished, since diagnosis is a continuous event) is to determine which perceptual modalities manifest deficiencies in relation to deficient learning results.

2.7 Some media for evaluating perceptual modalities

The nature of perceptual disturbances is determined by particular standardized media such as the following:

* The Illinois Test of Psycholinguisitic Abilities (Kirk, McCarthy and Kirk, 1968).
* The Wepman Auditory Discrimination Test (Wepman, 1973).
* The Southern California Sensory Integration Tests (Ayres, 1972).
* The Beery and Buktenica Developmental Test of Visual-Motor Integration (Beery and Buktenica, 1967).
* The Frostig Developmental Test of Visual Perception (Frostig, 1973).

Figure 4 is an explanation of the modalities of actualizing learning that can be evaluated with the help of these particular media.

When all of the relevant results of the diagnostic procedures are interpreted, the orthodidactician (educational psychologist) can make scientifically grounded pronouncements regarding the child with learning problems in terms of a particularizing of the essences of the disharmonious dynamics of teaching on which providing effective help is based.

The particularized disharmonious essences of teaching are summarized in an orthodidactic diagnostic report in terms of the specific actualization of learning, teaching, deficient learning outcomes and the related disharmonious moments of educating.

2.8 The orthodidactic diagnostic report

2.8.1 Identifying particulars

Here the child's name, age, school and grade level are indicated.

2.8.2 Statement of the problem

This is indicated as it is furnished by the parents, i.e., the problematic regarding the child's school situation, level of subject content mastery and learning skills as well as the related unfavorable personal meanings the child attributes to his situation.

Figure 4

Learning actualization modalities	Perceptual modalities				
	1	**2**	**3**	**4**	**5**
Modes of learning					
attending	x	x	x	x	x
perceiving	x	x	x	x	x
thinking	x	x	x	x	x
visualizing	x	x	x	x	x
memorizing	x	x	x	x	
remembering	x	x	x	x	
Sensory-motor					
gross motor	x		x		
fine motor	x		x	x	x
tactual x		x			
kinesthetic	x		x		
laterality	x		x		
sensory-motor coordination	x		x		
Visual perception					
sensory-motor integration	x		x	x	x
figure-ground	x		x	x	
analyze-synthesize	x		x	x	x
sequencing	x		x		x
discrimination		x	x		
spatial orientation			x	x	x
remembering	x		x	x	
closure x		x	x		
Auditory perception					
sensory-motor integration	x	x	x		
figure-ground	x	x			
analyze-synthesize	x	x			
sequencing	x	x			
discrimination	x	x			
remembering	x	x			
closure	x	x			

1 = Illinois Test of Psycholinguistic Abilities (ITPA)
2 = Wepman AuditoryDiscrimination Test
3 = Southern California Sensory Integration Test
4 = Frostig Developmental Test of Visual Perception
5 = Beery and Buktenica Developmental Test of Visual-motor Integration

2.8.3 Historicity data

All relevant data that concerns the child's disharmonious teaching situation has to be provided. In addition, the same data discussed in Chapter 7, section 3.8 apply here.

2.8.4 Deficient learning outcomes

In addition, a description is given of the child's level of skills in reading, computing, writing and spelling. An indication has to be given of his style of achievement, the types of errors he makes as well as the correlated ways of actualizing learning as causes for the particular errors.

2.8.5 Image of deficient actualization of learning

Here an explanation is given of the particular deficient ways of actualizing learning as reasons for the learning outcomes. Mention is made of the particular media used and the results obtained.

2.8.6 Dysfunctional teaching activities

Here the relations among the essences of teaching, learning and contents have to be given as a disharmonious teaching event for explaining the learning problem.

2.8.7 Conclusions and recommendations

In light of the above the orthodidactician (educational psychologist) now is able to give an opinion about the nature and seriousness of the learning problem in relation to the disharmonious teaching event integrated with the original problem announced by the parents or also who at all desires the intervention of the educational psychologist (orthodidactician).

Recommendations ought to contain, among others, the following components:

* Parental guidance: regarding what functional activities the parents will be advised about.
* Referrals to other relevant persons for the necessary help, for example, an occupational therapist or an oculist.

* Orthodidactic help in terms of making the child ready and prepared to learn and remediation.

2.9 Example of an orthodidactic report

2.9.1 Identification

Name:	Alida
Birth date:	26 September 1975
Examination date:	30 April 1986
Age:	10 years, 7 months
School:	Up and Awake
Grade level:	5th grade

2.9.2 Statement of the problem

Alida's mother says that she is very poor at reading. She does not retain what she reads and does not read fast. Her handwriting is untidy. Also, she easily cries when she does poorly.

2.9.3 Summarized person image

2.9.3.1 Historicity

Alida is the youngest of four children. The attainment of her developmental milestones progressed normally.

She had difficulty being engaged in the nursery school she attended and only began talking with the teachers after nearly a year. Also in school she is ashamed and withdrawn and now always prefers to do oral work alone with her teacher.

Her mother becomes impatient when Alida cries so easily but tries mostly to ignore it. She also prefers to discuss her homework with her father.

According to her mother Alida has permanent friendships. Also, she has responsibilities at home.

Her school marks fluctuate between 60% and 70%.

2.9.3.2 Personal actualization

2.9.3.2.1 Intentionality

She appeared to be spontaneous and pleasant during the investigation. She very much favored working together. However, sometimes her attending was superficial and fluctuating so that she was not able to arrive at a correct solution.

2.9.3.2.2 Intellectual ability

On the SSAIS she obtained an intelligence score of 136 on the full scale, a verbal score of 119 and a non-verbal one of 148. On the verbal items often she was hesitant and first had to be encouraged before she answered. Her achievement was weakest on "Verbal Reasoning" which means she cannot reason abstractly or draw conclusions and thus remained concrete and inflexible in her thinking. Her achievement also was irregular in the sense that sometimes she managed more difficult items and failed easier ones. On the non-verbal items no deficiencies were noted.

2.9.3.2.3 Affective lived-experiencing

Alida is unsure of herself and therefore is tense and retiring and shows a deficient self-confidence especially in group situations. She is sensitive to the opinions and criticisms of others. She is easily voted down. She is ready to establish relationships but first seeks approval and acceptance before she communicates.

She wants to achieve but is very aware of her work that is not up to standard and especially of her learning problem so that she feels downright inadequate.

She experiences her mother as busy and strict and would like to spend more time with her. She also experiences that her sisters and brother do not understand her and she feels rebellious about this.

2.9.3.2.4 Image of actualizing learning

* Visual-spatial

According to the ITPA it appears that here memory for sequences and her sense of direction are adequate but she experiences problems with visual discrimination especially with the letters a/e and w/n.

On the Southern California Motor Accuracy Test she obtained a score 0f -0.5 which indicates only a slight deviancy. Visual-motor integration also is on level: on the Beery Developmental Test of Visual-motor Integration she obtained an age-score of 11 years and 6 months.

* Auditory-vocal

Her auditory discrimination appears to be intact but according to the ITPA she shows a memory for auditory sequences on a 5 year, 6 month level.

* Actualizing modes of learning

She shows conspicuous fluctuations in attending which gives rise to her not being able to approach a problem or a task with cognitive order. Thus, her outstanding intellectual abilities are not actualized adequately. She can remember and memorize adequately (On the "Memory" test of the SSAIS she made no errors) but inadequate attending and uncertainty allowed here methods of work to vary.

2.9.4 Image of deficient learning results

2.9.4.1 Reading

According to the one-minute reading tests the age-level of her speed reading is 7 years, 11 months, actually a three-year retardation. Regarding her ways of word attack, again she is above her age-level. She can arrive at a correct cognitive solution when time is not important. She reads very slowly and purposefully analyzes.

She tries to keep her place with her left hand and right index finger. She reads in a monotone and word-for-word, although her reading comprehension to a 4th grade level. She experiences problems with the global-identification of words as well as with speed-reading. Her tense attitude and fluctuating attending thoroughly influence her reading ability. Among others, she committed the following errors:*

* letter insertions

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* The examples of errors are in the Afrikaans language.

"teen" instead of "te"
"hom" instead of "om"
"gedurigende" instead of "gedurende"

* letter elimination

"oorraad" instead of "voorraad"

* inadequate discrimination

"bad" instead of "bed"
"waar" instead of "weer"

* anticipations

"altwee" instead of "altyd"
"omdat" instead of "sodat"
"wintervoedsel" instead of "wintervoer"
"bokant" instead of "bolaag"

* changes word endings

"kop" instead of "kon"
"vas" instead of "vat"

* inadequate knowledge of vowels

"karikateur" instead of "karikatuur"
"nuut" instead of "nooit"

* phonetic pronunciation of syllables

"langdurrige" instead of "langdurige"
"harmonnium" instead of "harmonium"

2.9.4.2 Spelling

Of 40 words she wrote only 20 correctly. She did poorly with open and closed syllables; the distinction f/v, ei/y, i/ie, t/d; vowels and nasals.

Among others, she committed the following errors:

"knoopie" instead of "knopie"
'vlenter" instead of "flenter"
"vyligheid" instead of "veiligheid"
"ondeunt" instead of "ondeund"
"skingbord" instead of "skinkbord"
"openingtjie" instead of "openinkie"

Also with an auditory analysis of sequencing she made the following errors:

"labooratoring" instead of "laboratorium"
"dusiepliene" instead of "dissipline"
"Tooiengrig" instead of ""toiingrig"

2.9.4.3 Transcriptions

Also here she worked very analytically so that she wrote word-for-word and checked and thus committed no errors.

2.9.4.4 Computing

She showed a computational speed of 9 years 10 months for adding and 10 years, 8 months for subtraction. She made no errors but worked very slowly. She is very uncertain and adds on her fingers.

2.9.5 Disharmonious teaching event

Alida is a highly gifted child intellectually who underachieves because of affective lability, uncertainty, fluctuating attending and an erratic methods of work. Her reading comprehension and technique is relatively adequate but she cannot improve her speed. There are no deficiencies indicated in perceptual modalities but her actualization of learning proceeds disharmoniously. The possibility of a problem with eye-control is not ruled out. The fact that she doesn't really achieve poorly intervention with the school is not yet necessary.

The relationship between mother and daughter miscarries as appears in both of their lived experiencing.

Because of her problematic progress in learning skills she is sensitive to the opinions of others and her opinion of herself is

determined accordingly. Her affective lability then is an additional restraining in her actualizing her learning.

2.9.6 Recommendations

* Parental guidance regarding a better relationship of understanding and acceptance between mother and daughter.
* An eye examination.
* Orthodidactic help:
    * Pedotherapy regarding her experiencing herself as inadequate.
    * Making her learning ready: help will be given regarding a directed attending and an ordered thinking and way of working; help also with respect to global-recognition, visual discrimination and auditory analysis and sequencing.
    * Improving learning skills: increasing sight vocabulary, increasing speed, global recognition and syllabification.

3. SYNTHESIS

With the diagnostic report as a point of departure, a strategy for helping a child can be compiled, the components of which will serve as the particular learning results that will enjoy attention and the child's specific abilities and deficiencies will serve as a beginning for remediating learning skills and subject contents.

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