CHAPTER 4

THE INTERPRETIVE POSSIBILITIES OF ORTHOPEDAGOGIC-ORTHODIDACTIC MEDIA

1. INTRODUCTION

The previous chapters have allowed important particulars about the didactic components of an orthodidactic lesson design to be disclosed. For example, indications and guidelines were developed regarding aims, forms, contents, modalities, modes of learning, etc., details without which an orthodidactician could hardly proceed to an orthodidactic lesson design. The particularizing of macrostructural givens into microstructures, however, is still not realizable simply because they must be accurately interpreted for (a) particular child(ren) with learning problems. Knowledge of a child with learning difficulties, as a person, is thus necessary and also leads the way to intervening orthodidactically. The diagnostics of learning difficulties is a problem in its own right, but in order to obtain data with an eye to lesson design, this matter must be broached briefly.

In chapter one (3.5.2) orthodidactics is staked out as a facet of orthopedagogics. Also it is emphasized that the orthodidactic practice of giving help should not be thought of as separate from the orthopedagogic practice of rendering assistance or pedotherapy (See chapter three). In truth, orthodidactic practice mainly involves a shift in orthopedagogic emphasis *to a blocked child in a formal teaching situation.* It must always be kept in mind that a child with learning problems also shows himself in a formal teaching situation as an inadequate initiative of relationships; that because of his attenuated dialogue with the learning material, he cannot arrive at adequate self-realization; that he thus not only fails with respect to the cognitive dimension but indeed as a person.•

• In his description of the term "person", Nel indicates that it is realized dialogically, that a human's being-addressed occurs at the deepest level of his being human, and that his

Whoever does not take these fundamental facts into account in his diagnostics, at most, can lay claim to information about partial defects that, moreover, present themselves as symptoms.[1)] This amounts to the fact that judging, understanding and appreciating a child's unique design of his learning world, as experiential world, are inadequate mainly because pedagogical criteria are not applied,[2)]

In contrast to such an approach, an accountable orthodidactic diagnostics has in view disclosing a learning image as a particularized image of lived experiencing. Therefore, the diagnostic of a child with learning problems does not only include implementing diagnostic and scholastic media (tests) that can at most only illuminate symptoms. He is approached with a full arsenal of pedagogical instrumentation by which the orthodidactic diagnostics is immediately elevated to an orthopedagogic one. This means that now there is an attempt to acquire insight into the *different* meanings of a child with learning difficulties in his experiential world, and thus also involves becoming acquainted with a child's real disharmonious course of becoming adult.[3)]

Only against this background can the aims of orthodidactic diagnostics be reached. Thus, e.g., this diagnostics involves a penetrating analysis of the child's *level of actualizing* his *learning*. This includes the identification of under-actualized modes of learning and the determination of those modes of learning that are slightly under-actualized or even adequately actualized. It is always the case that a particular image of actualizing learning is unique; that each child with learning difficulties has knowledge and skills at his disposal on the basis of which he achieves just as well if not better than his age-mates but paired with this are a variety lower than normal and delayed levels of functioning.[4)]

---

response is a normative one that is based on his own responsibility and that occurs in freedom. (Nel, B. F., Sonnekus, M. C. H. and Garbers, J. G.: Grondslae van die psigologie, p. 118).

The determination of an image of actualizing learning thus includes a search for harmonious and disharmonious moments of its actualization. Indeed, according to Van Niekerk[5] a learning restraint is a disharmony in the self-actualization of learning that includes a disharmony in actualizing experiencing, willing and lived experiencing with the result of a disharmony in giving meaning in terms of a labile affective and a disordered cognitive lived experiencing as a deficient stratum for the integration of new possessed experiences.

From the nature of things, determining an image of the actualization of learning also includes determining a child's inadequate learning effect, or more specifically, the results of his inadequate actualization of learning, that also is known as an image of symptoms.

Modern orthodidactics adopts the standpoint that normally learning difficulties are symptoms of deep-seated problems. This means that orthodidactic diagnostics is also attuned to disclosing factors that underlie the origin of learning difficulties. And this is only possible when a child with problems is viewed and understood in his situatedness, i.e., as a person-in-education. This involves the use of orthodidactic criteria, as particularized pedagogical yardsticks, in terms of which a disharmonious educative dynamic is disclosed.

2. THE INTERPRETIVE POSSIBILITIES OF ORTHOPEDAGOGIC-ORTHODIDACTIC MEDIA

We begin with a few comments that must be viewed as postulates for the aims of the present study since they will not be debated. Such postulates are continually realized in an orthopedagogic-orthodidactic diagnostic practice:

- All pedodiagnostic media serve as aids in terms of which a child with learning problems is encountered in his world.[6] According to Van Niekerk,[7] with respect to a given medium, a child must redesign for himself a "little piece of a world" and the investigator has to analyze and evaluate this reconstitution. Such an analysis and

evaluation are only possible if an orthopedagogue throw himself into the world of a child with learning problems via the realization of the pedagogical [essences/categories].

- In agreement with this no medium, not even standardized tests, is interpreted as though it provides exclusive data about a particular so-called isolated psychic function. A child with learning problems is in conversation with his world and this communicative involvement is a reflection of his total personal realization. Following Linschoten's statement that human existence is correlated with the human world, there cannot be isolated psychic functions because no thing exists in isolation. "There are no isolated objects; everything with which we involve ourselves, directly or indirectly, manifestly or in a veiled way, refer by their meaning to all other objects and meanings"[8] [In Dutch].

2.1 The historicity conversation

It is not the aim to give an explication of the meaning, necessity, preconditions and course of a historicity conversation. In this connection, the interested reader is referred to the comprehensive literature on this topic.[9]

The present explication deals with the question of what anamnestic [case historicity] data are of importance to an orthodidactician. Since the activity of learning shows an extremely complex structure by which, among other things, the past of a child co-defines his present situatedness and thus also his present act of learning, it is asserted categorically that all anamnestic data with respect to a child with learning problems are relevant.[10] Each datum deserves careful consideration and interpretation in order to indicate its relevance for the total image of learning.

In accordance with an earlier statement that in orthopedagogic diagnostics the concern is with determining the state of educating and becoming of a child with learning problems and that from an orthodidactic perspective this implies detailed information about learning restraints and deficient learning results or inadequate

subject matter knowledge (see chapter three, 2.2), obtaining historicity data occurs in terms of a child's learning potentialities and difficulties. To avoid digressing, the historicity data are discussed with respect to the following two facets.

2.1.1 The state of the child's physical development

Since the body is the orienting core-situation out of which a person's entire existence acquires perspective, data regarding the corporeality of a child are of particular importance to an orthodidactician. Engelbrecht posits corporeality as the indispensable precondition for exploring, moving, dialoguing and establishing a meaningful world, and hence it is obvious that physical deficiencies, ailments and disturbances contribute meaningfully to the quality of a child's learning achievement at school.

Therefore, data that can be indicative of an *organic disturbance* must be very carefully considered and interpreted by an orthodidactician, often in consultation with experts from other relevant perspectives. This will occur especially in light of a child's learning behaviors and the forms in which his learning difficulties are manifested. Related to this Gouws[11] mentions illnesses such as epilepsy, sclerosis multiplex, cerebral arteriosclerosis, meningitis-tuberculosis and encephalitis that can underlie neurological disturbances. Physical traumas before, during or after birth can also have a decisive influence on the course of a child's learning and becoming. Therefore, the length of the birth, the use if instruments, a deficit in oxygen, the umbilical cord around the neck, etc. are good examples of data that can point to causative factors in light of a child's behavioral image.

All illnesses that a child has experienced are of importance, among other reasons, because particular illnesses such as thyroid diseases, diabetes, hypertension, particular blood illnesses and hepatitis can give rise to states of tension.[12] It is known that excessive tension, as a form of expression of an affective lability, can have a restraining effect on the adequate actualization of the modes of learning. In addition, the majority of illnesses entail the absence of school attendance. Depending on their duration they can give rise to gaps

in knowledge that eventually accumulate into *particular* learning difficulties.[13)]

Also a *light birth weight* must be carefully considered as a contributory factor to learning problems because it is often related to the so-called "late maturation of the central nervous system". Neurologists believe that these children show a physiological incompleteness, e.g., in the form of a delayed myelination or insulation of nerve fibers in the brain that then can be responsible for certain forms of learning problems.[14)]

The existing literature shows great unanimity regarding the key role that *corporeality,* in general, plays in the actualization of the psychic life. Thus, e.g., Nanninga-Boon[15)] asserts [In Dutch} that "corporeality manifests itself in movement as a condition for becoming aware and understanding." More explicitly, Prick and Calon[16)] point to the affinity between corporeality and language acquisition as they note that bodily-awareness, bodily-use and knowledge of bodily relationships are not only presumed in speech but also in the meaning included in bodily movements. Kephart[17)] stresses the particular relationship between locomotion and visual as well as acoustic perception that, when integrated lead to establishing a temporal-spatial orientation.

Thus, an orthodidactician must give careful attention to each anamnestic datum that can possibly be related to restrained movements and handicapped locomotion. In addition, any disturbance in temporal-spatial orientation is of essential importance. Thus, detailed data regarding many facets of temporal-spatial orientation such as sidedness [laterality], body scheme, dominance, sense of direction, rhythm, balance, form-perception, temporal structuring, etc. are of cardinal importance.

Any indication of *negative bodily lived experience* is also of great importance because it is a known fact that such a lived experiencing restrains a child in actualizing his intentionality and that a gnostic-cognitive distancing and attitude then can be adequately actualized only with difficulty.[18)] It is especially an ill child and one with a conspicuous body or body-part, who becomes so preoccupied with his body that he cannot forget it. According to Engelbrecht,[19)] when

a body is strongly lived experienced the living through or passing over it (as a transcending passage to a full spiritual existence) becomes impossible. The child is so firmly held in the concreteness of his bodily lived experiencing as a pathic lived experiencing and affective distress that he cannot arrive at an adequate actualization of his cognitive potentialities.

Unfavorable bodily lived experiences can either give rise to learning problems or, at least, contribute to their persistence.[20] It is understandable that an orthodidactic program for helping such a child will appear completely different because it will have to be integrated with pedotherapy and physical therapy.

Obviously, mention of *sensory deviations*, however vague or incidental, by the parents carry particular weight. Sensory information is not only involved in the most original experiencing and lived experiencing but it also is a precondition for adequately actualizing the psychic life, especially in terms of the acts of reading, spelling and computing. In this connection, one also thinks of psychic acts such as imagining, symbolizing and conceptualizing (the latter includes acts such as abstracting and categorizing).[21]

From these few examples the importance of corporeal data and their interpretation for orthodidactics is clearly evident. However, it must be emphasized that all of the data must continually be evaluated in the context of and against the background of a child in a disharmonious teaching situation.

Although the anamnestic data serve as important indicators of the direction for further orthodidactic diagnostics, they acquire much greater relevance when corroborated by the rest of the investigation.

2.1.2 The level of psychic life actualization

It has long been known that affective problems are one of the most important accompanying and/or causative factors in the appearance of learning problems.[22] It is not at all surprising that Pos[23] describes the role of “moderate” affect as the motive of human ways of acting that does not arise from the intellect but in its spontaneous way of

working, *the intellectual powers are awakened and an aim is indicated for them* (my cursive). In the same manner Perquin[24] describes the emotional as "the mother soil of knowing" [In Dutch]. A labilized emotional life must necessarily influences actualizing the cognitive as a consequence of which its adequate actualization is delayed.

It is also known that, in terms of being a child, a labilized emotional life can be equated with a lived experience of being unsafe. A child especially experiences being unsafe in a problematic educative situation. Such a situation is often characterized by disharmonious relationships, i.e., where mutual respect and trust as well as acceptance do not hold, where a child is not understood in his being a child, where uncertainty reigns regarding the proper, etc. (See chapter two, 4.1).

Therefore, the orthodidactician must carefully project all data that can disturb the dynamic of educating onto the background of the [child's] learning world, as experiential world, in order to indicate their relevance to the child's learning difficulties.

Because the *family* is the place where a child's yearning for security must be satisfied, the labile affectivity (now seen as educative distress) of a child with problems often is explained in terms of disharmonious family relationships. Pretorius[25] mentions mistakes in educating, disturbed relationships and particular family situations as education-impeding factors. Each of these factors must be placed under the orthodidactician's magnifying glass in order to determine to what extent they also hinder a child taking a cognitive and a normative attitude.

Disturbed educative relationships and teaching errors in a *second-order [school] teaching situation* also are reasons for a labilized affectivity. From these data an orthodidactician acquires not only insight into a child's behaviors but also help him explain a child's resistance for particular subject matters and/or his antagonism for a teacher (and especially the reasons why). An orthodidactic lesson design and program for giving help necessarily must make provision for this.

In connection with the above, data regarding a child's learning world as seen by the parents and teachers are of great importance. Ferreira[26] mentions that an orthodidactician wants detailed information about the following moments:

- The nature and scope of a child's learning problems;
- Learning readiness;
- How he learns;
- The nature of his study methods;
- Skillfulness, sense of duty and sense of responsibility with respect to his work;
- The homework situation and the parents' availability and readiness to help;
- Achievement in general and in particular;
- Expectations held by parents and teachers;
- Inclusion at school and in school activities;
- Relationships with teachers and other students;
- Teaching problems;
- Possible behavior problems;
- Personality problems.

This comprehensive list can also be supplemented with matters such as the state of a child's school readiness at [the time of] school entry, the level of his possessed experiences [at that time], a determination of his life style that necessarily must give a reflection of his learning style, etc.

It is obvious that the above data are almost indispensable for an orthodidactician because each datum can contribute to a different accentuation and nuance in designing an orthodidactic lesson. It is asserted that an exploration of the learning world of a child with learning difficulties, as an experiential world, is not realizable without finding answers to the above questions [moments]. And in addition, without this information an accountable program of providing assistance is also not possible.

Deviations in *language acquisition and usage* are of great importance for an orthodidactician for three reasons:

- A language deficiency leaves no child unscathed in his constituting a world. It must be kept in mind that language, because all other forms of giving meaning can be made into language themes, figures as a central phenomenon in human existence.[27] Human reality is a verbalized reality,[28] and therefore it is inevitable that a language deficiency will have its influence felt over the entire range of human existence.
- Because it is interwoven with human modes of being—in truth language functions as a precondition for adequately actualizing them—deviations and deficiencies in language structure as well as the state of its acquisition and mastery, make an illuminative contribution to understanding the actualization of the psychic life by a child with learning problems. Thus, e.g., it is a known fact that a relatively early language acquisition points to qualitatively higheer intellectual potentialities.[29] However, in the same breath, it must be stressed that a relatively late acquisition of language does not necessarily indicate qualitatively lower intellectual potentialities.[30]

  The connection between language and thinking, language and perceiving, language and remembering, etc. are described in detail in the contemporary psychopedagogic literature and the interested reader is referred to it.[31]

- Learning difficulties are language difficulties, at least as far as children in the primary school are concerned. Their problems center especially on reading, spelling and computing and where they experience difficulties with other subjects such as geography, history and biology, this also refers back to language difficulties.[32] With respect to the anamnestic data, this statement is especially consequential in so far as there is an intimate relationship between spoken and written language.[33] By implication, this means that speech deviations and defects, impoverished language, articulation

disturbances, etc. can have an impact on a child's reading, spelling and computing.

Schenk and Korndorffer[34] observe directly that good reading and writing instruction begin with speech teaching and go hand in hand with improved speaking. In the same manner, Vernon[35] explains [In English} that "... learning to read is particularly difficult when language is inadequate, either in simple speech or in the more highly developed linguistic functions." Gouws[36] mentions statistical studies by researchers such as Hallgren, Robinson and Monroe. The latter finds that speech errors are found in 27% of 415 children with learning problems in contrast to 8% in a control group of 101 children [with no learning problems??—G.D.Y.].

Therefore, the language world of a child with learning problems deserves a penetrating analysis, also in the historicity conversation where the focus will fall on spoken language. Above and beyond an exploration of the spoken language of a child (during the discussion or auto-anamnesis) it also will be profitable for an orthodidactician to carefully listen to the language world of the parents. It is known that language development is highly dependent on educative factors;[37] also the language milieu in which a child grows up has a considerable influence on his use and mastery of language.

Bernstein[38] finds a correlation between reading and spelling difficulties of a number of manual laborers and the spoken language used every day in their surroundings. He describes the characteristics of their language use, among other things, as short, grammatically simple sentences in which subordinate clauses, adjectives and adverbs are limited; in addition, sentences seldom arise in a passive form, that phrases are often repeated, and moreover in an unordered way by means of patching them together with conjunctions. The spoken language is found again in the children's written language. It had also seemed that the "formal" and "correct" teaching language for these children in very many respects was foreign to life. Problems are especially found with finer nuanced meanings and the different articulation of words where an appeal is especially made to the child's discriminative abilities.[39]

Finally it must be emphasized that the historicity conversation fills an important role in an orthodidactic investigation, on the one hand, because of the information acquired and, on the other hand, because of the guidelines that it provides for the rest of the investigation.

2.2 Observation media

Van Niekerk states that an orthopedagogue must accurately notice what a child means in less "deliberate" ways because in addition to what he wants to consciously communicate about himself in his conversation, play, etc., he allows much more to be seen by one who knows what to look for and how to look.[40)]

The following discussion will briefly offer a guideline from an orthodidactic perspective in terms of which a child with learning problems must be approached. In other words, here the relevance that pedagogical observation has for an orthodidactician is shown. Contemporary pronouncements about pedagogical observation stress a co-responsible partnership within which a dialogue is entered with a child and within which he is encountered as a person.[41)] Consequently, when there is a pedagogical observation, *conversation, as an auto-anamnestic moment, cannot be excluded from it*

Although the orthodidactic viewpoint necessary presumes a shift in emphasis, it must be emphatically stressed that it always remains a pedagogical perspective. Each activity, behavior and expression, therefore, is evaluated and interpreted in light of the pedagogic criterial structure that, among other things, presumes a differentiated and flexible thinking about a child-in-education.

An orthodidactic observation particularly involves a search for possible learning restraining deficiencies in order to find explanations for why a child shows deficient learning results. Therefore, an orthodidactic evaluation of what is observed is continually made against the background of a disharmonious teaching situation. The underlying question is always: "How is it possible that a particular child does not show an adequate learning effect?

As in the case of the other media, the following discussion occurs on a macrostructural level. The pedagogical observation, in general, the pedagogical conversation, as well as the various observational media will therefore enjoy momentary attention without giving a specific explanation of each:

Observation of expressions, behaviors and modes of acting are of particular importance for an orthodidactician because they can put him on the trail of symptoms that accompany an inadequate act of learning or of possible causative factors. Therefore, he is particularly attuned to observe a child's behaviors in terms of sensory experiences. The observations offer him the opportunity to evaluate a child's viewing, hearing and feeling in his educative situatedness and find preliminary answers regarding the actualization of his auditory and visual perception; if there are indications of possible perceptual disturbances such as agnosia, aphasia and apraxia; if there are blocked sensory experiences as a result of a labile affectivity, etc. It is always a familiar phenomenon with learning difficult children that they can view and hear adequately but not listen and look adequately, the origin of which often refers back to a meta-stable affective lived experiencing.

Observation of locomotion with all of its various facets is an important focal point for an orthodidactician. Locomotion is intimately connected with the various modes of learning such as perceiving, remembering, actualizing intelligence, thinking, etc.[42] Also, an adequately actualized locomotion serves as a precondition for constituting a body-scheme and –concept, spatial and temporal orientations, etc. that include particularized components such as left-right orientation, sense of direction, balance and rhythm.[43] Since all of these facets have a role in the act of learning, in general, and in the acts of reading, spelling and computing, in particular, a careful pedagogical observation [of them] is of importance. However, it must be emphasized that the observation of locomotion must not occur in isolation: It continually involves a penetration of the dialogue a child with learning difficulty carries on with his world, of which locomotion represents a necessary and integral aspect.

In this connection, data obtained from *performance media* such as the “Guide it”, “Passalong” and “Wiggly Blocks” play a necessary role. Each more or less provides an opportunity for observing the various dimensions of locomotion such as static coordination, dynamic coordination and quickness of movements.[44] This can make an important contribution to evaluating motor movement by which an orthodidactician, among other things, is put on the trail of possible motor disturbances such as various forms of apraxia.[45]

In this way the media also provide an excellent opportunity for the observation of behaviors that include the implicit significance of actualizing a child’s psychic life. The ideal but practically impossible diagnostic situation perhaps would be to continually hold a child with learning problems under observation in a formal teaching situation in order to disclose disharmonious moments. Although not the real thing, the use of the media indeed provides important components of a lesson structure and an orthodidactician can acquire access to *the actualization of the psychic life as it is played out in a disharmonious teaching event.* For example, in the case of the Wiggly Blocks, in the instructions there is clear mention of actualizing foreknowledge, stating a problem, exposing [contents] and evaluating. Careful observation therefore provides important information about the state of the actualization of a child’s psychic life such as, e.g., his intentional directedness, affective attunement, willful connectedness and taking a gnostic-cognitive attitude.

A child’s involvement with the blocks shows in detail the level of actualizing the modes of learning of which thinking and perceiving will be selected as brief examples:

The act of thinking, as intentionally determined activity, and as a response to an appeal from reality as a problem, forces itself prominently into the foreground in this medium.[46] The child is committed to a specific task, the blocks ask for completion, and because of their appealing character, a child usually is engrossed in thinking. As a result, an orthodidactician acquires access to the state of a child’s actualizing particularized essences of thinking such as planning and ordering, analyzing, reconstructing, using logic, abstracting. etc.[47] Once again, the essence of thinking must not be

observed as isolated entities but against the background of a child's total situational involvement.

These data are of cardinal importance for an orthodidactic program of providing help, among others, for determining the "former" ["Einstig"], and also to indicate the extent to which help can be provided with respect to particular facets of making [a child] learning-ready. Since the experiments by Selz it is known that effective methods of [problem] solutions are learnable.[48)] The transfer of effective methods of solution implies an increase in the level of actualizing thinking, naturally within the limits of the intellectual potentialities of a particular child. Thus, a child can be guided to an adequate act of analyzing, to a more systematized and ordered engagement, etc.

With respect to actualizing perceiving, the Wiggly Blocks especially lend themselves to observing a child's spatial representation abilities.[49)] Although it is one of the factors in the completion of the task, from an orthodidactic perspective it is indeed of great importance. Spatial representation really incorporates the adequate actualization of a variety of facets of spatial orientation and moments of actualizing the psychic life. The former includes again putting the figure in space, form- and direction-constancy, integrating and ordering the parts into a meaningful whole and assembling a specific structure. Actualizing the psychic life includes, among other things, the modes of learning such as imagining, perceiving, thinking, remembering and actualizing intelligence.

Spatial representation plays a dominant role in constructing words on a productive level such as, e.g., in an essay. Namely, a child must have at his disposal a representation or an anticipated idea when he wants to write down a particular word, now viewed as a synthesis of a graphic and phonetic system. Thus, should a child experience problems in completing the Wiggly Blocks it pays the orthodidactician to make a careful evaluation of the various facets of spatial orientation. Possibly this can lie at the foundation of his reading and spelling problems.

The fact of an I-problem-community-situation[50] *also* is evaluated from an orthodidactic perspective as a disharmonious teaching situation from which important data can be acquired of an inadequate act of learning.

Data with respect to the *language use* of a child, for obvious reasons, is an important orthodidactic point of focus. In this respect the auto-anamnestic conversation assumes a prominent place in pedodiagnostics. Here a child is encountered as language-in-function; here he is directly placed in the foreground because the conversation is about his own situatedness;[51] here he thinks and formulates throughout and in this way he shows his world as a world of language. Dispositions, ways of being and relationships about a variety of matters, but especially about matters directly related to a disharmonious teaching situation, can in this way be illuminated.

In addition to an investigation of language deficiencies and defects—that in each case must be evaluated against the background of a child's total pedagogical situatedness—there is a listening to how a child gives meaning to his world. From this an orthodidactician acquires important access to the state of a child's actualization of his psychic life. Thus, his intentionality, volitional life, affectivity and cognition announce themselves in unambiguous ways in his language. In this connection, Van der Stoep[52] asks the following typical questions to which an orthodidactician must find answers: "Of what significance are the short, stiff, simple sentences which serve so many of these children: an affective flooding, strong intellectual control, a rejection of the investigation, a deficient language? Does a child show himself as indifferent, shy or defiant, and how does a disposition manifest itself in the way he deals with language, also as gesture and mimicry? Does his language give evidence of lived experiences on an affective level? Sometimes here there is also a resigned acceptance of the circumstances observed if the defect obviously influences the life tempo and also directly the learning tempo. On the other hand, sometimes a child is extreme in his condemnation about the school as a place of tasks, of the teacher as a demander and punisher, of the parents as intervener and judger. Variations in the tendency to take a position make an

investigator attentive for an entirely pathic, labile or meta-stable affectivity."

Above and beyond the general performance media such as the "Guide-it", "Passalong", the "Kohs Blocks "and the "Wiggly Blocks" there are also a variety of differentiated performance media designed for a specific aim. Thus, there are different form- and pattern-media, media for evaluating sensory perception, spatial orientation, sense of direction and dominance.[53)]

Each of the media is designed to acquire relevant information regarding facets of reading, spelling and computing. Indeed it is emphasized that all of the media can furnish much more information about a child than what it was originally designed for.

Finally, it cannot be glossed over that pedagogical observation is one of the most important information media at the service of an orthodidactician.

2.3 The intelligence medium (N.S.A.I.S.)

It is an irrefutable fact that there are intrinsic relationships among learning, thinking and intelligence.[54)] Therefore, the evaluation of the intellectual potentialities of a child with learning problems has an important place in his diagnostics. Not wanting to become involved in the problematic of intelligence, a few comments about this will suffice that have particular relevance for the aim of the present study: Intelligence refers to the transfer of insight to or its maneuverability in new problem situations.[55)] A second-order• [school] teaching situation particularly makes the demand of solving problems and, therefore, the above statement is directly relevant.

Normally the New South African Individual Scale (N.S.A.I.S) is implemented in the diagnostics of children with learning difficulties.

• Du Toit uses "secondary teaching situation" to mean teaching at a primary (elementary) or secondary (high school) level of schooling, i.e., formal school teaching. I am translating this as "second-order" rather than "secondary" to emphasize that he has in mind the difference between the primordial, original, "primary" educative situation of the home, on the one hand, and schooling as a formalized, derived (i.e., "secondary") version or nuance of it, on the other hand. (G.D.Y.)

Other media can be implemented just as effectively, but for the purpose of the present study a discussion of the former will be sufficient. In due time, particular media that also have implications for evaluating the actualization of intelligence will be discussed in this context.

In accordance with the accepted pedagogical standpoint that intelligence is not an isolated, constant quantity and, thus, also cannot be captured by a few quantifications, the N.S.A.I.S. is also viewed as a medium for fathoming a child as an initiator of relations, as a field of tension of values, as a giver of meaning to his own unique life world, but foremost as someone who must assume gnostic-cognitive positions. Thus this medium is also subjected to a qualitative analysis that, seen from this perspective, is necessarily a pedagogical analysis. It must be remembered that intelligence actualization constitutes only one dimension of the total actualization of the psychic life and that the latter cannot be considered outside of the [child's] educative situatedness.

From an orthodidactic perspective a qualitative analysis of the intelligence medium especially lends itself to obtaining information about important facets of a child's learning style and learning attitude. The child is continually confronted with a specific problem that asks to be solved. The particular positions that he takes will provide important answers in terms of work-tempo, persistence, weariness, etc.

From the nature of the matter, pedagogical observation plays an important role because the above are especially seen in a child's behaviors. The hesitant "stare" at tasks, a hasty choice in contrast to a carefully planned response are important indications in the investigation of a child's psychic life actualization, of his learning style and approach.

In the following, the N.S.A.I.S. is presented by type of items in order to show their essential and relevant indications for an orthodidactic investigation.

2.3.1 The verbal items

2.3.1.1 Vocabulary

The score on the vocabulary items reflects the state of a child's language mastery that, according to Madge and Van der Westhuizen,[56] is especially dependent on his education and environment. For the orthodidactician this involves not only the vocabulary that a child has at his disposal but even more if he has control of its meaning. According to Kotze he must also ascertain whether this control functions on an affective or on a cognitive level.

Therefore, it is important that a child must define particular words in order to determine how language is accessible to him, if a particular word has flexible meaning, i.e., if he can use it insightfully and situationally.

A word appears on each of five cards; they are arranged in an increasing degree of difficulty and lend themselves well to gauging a child's vocabulary in a longitudinal perspective of becoming. For example, it is anticipated that a younger child is mainly inclined to give a correct response to concrete-visual words, and also that an older child will master words that have an abstract meaning. Any deviation from this anticipation can have important significance for an orthodidactician in his understanding of the learning world of a child with problems. Thus, his interpretation rests not merely on the cognitive potentialities of a child alone but also on considerations of his intentionality and affectivity. Thus e.g., a poor achievement on words with an abstract meaning by an older child is not necessarily attributable to inadequate cognitive potentialities. An intentionality poorly-directed-to-learning or a meta-stable affectivity can also have the consequence of an under-actualization of cognitive potentialities. An orthodidactician must even be mindful of possible projective expressions in a child's word definitions that can put him on the trail of the origins of the mentioned problems of intentionality and affectivity.

A vocabulary item makes an appeal to visual and acoustic perceiving, to thinking, imagining, fantasizing and remembering and the achievements of a child must continually be evaluated in light of a possible under-actualized mode of learning.

2.3.1.2 Comprehension

Madge and Van der Westhuizen[58)] assert that verbalized comprehension of social situations constitutes an essential aspect of intellectual functioning. Evidence for this statement is found in the fact that such items are included in the Binet- and Wechsler-scales.

The comprehension "test" of the N.S.A.I.S. consist of ten questions arranged in an increasing degree of difficulty. The first few questions call for insight into social situations that normally are acquired from everyday experiences. The answers to the subsequence questions require knowledge that is dependent on formal teaching and/or on a particular socio-economic environment.[59)]

Thus, answering the questions requires a well-variegated experience of social situations. The items make an appeal to take a stable affective and an adequately actualized gnostic-cognitive position that is accompanied by a high quality of attending. Particularized essences of thinking such as judging, schematizing, analyzing and synthesizing play an important role because from a multitude of experiential possibilities a child must formulate an answer that to a greater or lesser degree reflects an abstracted comprehension. Here the investigator must acquire a clear image of the state of actualization of a child's possessed experiences.

Above and beyond these data, these items provide an opportunity for access to a child's mastery of language because his formulations are a reflection of the way he enters with language into a relationship with his world. By virtue of a child's "emotional" being in the world, the moment of the affective can nowhere be excluded from language. Hence, careful attention must be paid to the affective aspect of each formulation: Does a child's formulation give evidence of an intellectually controlled affective life? Is he in a position to deal with language formally and purposefully or does his language give evidence of a pathic flooding? Or is there talk of an impoverished and attenuated mode of expression that, in its turn, shows a qualitatively poor affective life?

When the coherence of formulations, the degree of orderliness, the state of logical reasoning, the availability of methods of solution and the flexible move from one method to another are taken into account an orthodidactician also acquires insight into a child's gnostic-cognitive structure. It must never be lost sight of that a child with learning difficulties is a child with language problems and that he experiences reading, spelling and computing problems. As already indicated, there is an intimate affinity among speaking, reading and spelling.

It is therefore clear that these particular items provide information of inestimable value for an orthodidactician because in a particular respect a child is confronted with his "errors" and information is acquired of the level of his language mastery and the level of the actualization of his psychic life.

2.3.1.3 Verbal reasoning

According to Sonnekus[60] concept formation means that the world of objects and things must be abstracted from an autonomous thing-notion to a system of abstract concepts. The visible thing-world must thus be broken through and transformed into a system of concepts. Such a transformation implies establishing relationships (verbal reasoning) between basic essential relationships and concepts.

These items on the N.S.A.I.S. clearly lend themselves to insight into the actualization of thinking, more particularly into particularizations of thinking such as classifying, schematizing, categorizing, abstracting as well as facets of ordering such as cause-effect, similarities and differences, etc. What is especially of cardinal importance in actualizing thinking is the availability of language as a means of abstracting or as a system of concepts. Although a contradiction, for the sake of emphasis one can assert that if a child should adequately actualize the above operations of thinking but not have a suitable system of concepts at his disposal, he is bound to failure because he must then fall back on an (often) wordy, concrete description.

A qualitative analysis of the verbal reasoning items not only provides insight into the particularized acts of thinking but also and especially into the level of language mastery paired with them.

2.3.1.4 Problems

Arithmetic items appear in perhaps all existing scales of intelligence such as the Binet scales, the Wechsler scales, the Kuhlman-Anderson tests and the California test of Mental Maturity.[61] Thus it is generally accepted that arithmetic manipulations are an important criterion for intelligence.

Indeed, arithmetic is not separate from language. Thus Van Gelder[62] asserts that morphologically the arithmetic system is one of the semantic systems that finds its origin in language. According to Van der Stoep[63] arithmetic rests on an interpretation of the language-value of its system of symbols. Gouws[64] notes that there is no aid or symbol in arithmetic that in its highest form cannot be substituted by language.

The above comments are of great importance to anyone who involves themselves with children with learning problems. These items consist of fifteen word problems. Answering them requires a mastery of language on an abstract level as reflected in the mastery of and insight into particular relationship concepts such as “just so many more and less,” “twice as much,” “more than’” etc. This requires manipulations and operations that result in an ordering, transforming and abstracting from a plurality of (concrete) data to a particular unity (as a solution to the problem). The above presumes a numerical skill because should a child not have confidence regarding the main algorithms he undoubtedly will not find a correct solution to the problem.

Hence, the problem-items require taking a strong gnostic-cognitive position during which attending and the gnostic-cognitive modes of learning must be adequately actualized. The achievements and acts of thinking of a child with learning difficulties are evaluated against the background of this ideal image. Thus, errors and gaps in thinking, the inaccurate use of and uncertainty regarding algorithms can indicate an under-actualization of the psychic life

because, e.g., of being pathically flooded (see arithmetic-anxiety). Or this can be ascribed to inadequate intellectual potentialities or even deficient possessed experiences. Through further analyses and observation this can put an orthodidactician on the trail of a possible didactic and/or pedagogical neglect.

2.3.1.5 Memory

Above and beyond memory (remembering) being an important criterion for evaluating intelligence in its broadest form of significance, the memory-items are of particular importance from an orthodidactic perspective. Adequate learning is not possible without the adequate actualization of memory and it is obvious that the items can manifest illuminative facts regarding a child with learning difficulties.

Van Niekerk[65] distinguishes between remembering as a mode of learning and remembering as a mode of establishing an experiential world: "*As a mode of learning* remembering includes, e.g., ordering, synthesizing, systematizing in the present with the aim of recalling in the future. *As a mode of establishing an experiential world* remembering is a recalling in the present of contents known in the past."

In the memory-items both memory as a mode of learning and as establishing an experiential world arise. On the one hand it is expected that a child order the given contents while the investigator "tells" [reads] them to him; on the other hand, as soon as he has clearly *listened,* to "lived experience again" what he has [just] memorized [learned].[66] The former requires both a high quality of attending and an adequate actualization of the gnostic-cognitive modes of learning, in particular auditory perception, remembering, thinking and imagining. With respect to the latter, it also requires an adequate attending, remembering and adequate actualization of thinking.

A qualitative analysis of achievements on the memory-items can bring the following errors or deficiencies to light:

- sequence mixed up;

- particular parts, e.g., the first and the last, are recalled less well and are not even mentioned;
- insertion of irrelevancies;
- disjointed language mastery;
- inaccurate information.

Depending on the learning image of a child with learning problems, and played against the background of a disharmonious teaching situation, the memory-problems can indicate the following possibilities, among others:

- a labile affectivity as a manifestation of an inadequate attending and, paired with that, an under-actualization of the cognitive modes of learning. Pedagogical observation also often brings to light states of anxiety and tension;
- inadequate learning potentialities in general and inadequate memory potentialities in particular;
- hearing defect;
- an organic deviation;
- rejection of the research situation within which factors such as the person of the investigator, physical circumstances, as well as the attunement of the child himself can play a role. A negative attunement is often found and ascribed to the fact that a child is uninformed about the aim of the study or that he is tired of examinations because of "over-testing" through various instances, or an obscured future perspective, etc.;
- linking up with the latter, a weak "intension directed to learning," where the contents, in connection with situational relationships and circumstances, direct a deficient appeal to a child. Since the particular task of the memory-items correlates in more than one respect with a formal teaching event, such a learning attitude can appear. In connection with other diagnostic data, this can also refer to an inadequate readiness to learn that often must be rectified by pedotherapeutic intervention and learning readiness programs.

2.3.2 Non-verbal items

2.3.2.1 Pattern completion

The pattern completion-items give an orthodidactician the opportunity to evaluate a child in terms of logical reasoning by means of concrete figures. Correct visual perception is a precondition for the successful completion of the items by which analyzing and synthesizing play a prominent role.

In addition, the items also require an adequate spatial orientation that incorporates particularizations such as fixating, placing a figure in space and distinguishing between foreground and background. In truth, spatial orientation embraces much more than adequate visual perception. Johnson and Myklebust[67] describe spatial orientation as follows [In English}: "Orientation in space is a term describing the faculty normally possessed by humans which permits them to have at all times precise knowledge of their position in relation to the outside world as it is perceived by them. This faculty is not a specific or an isolated one, but is dependent upon a variety of psychological and physiological processes. .... Orientation implies the ability of the individual to relate himself to a fixed point. This point may be part of his own body, or it may be perceived by him as a space outside his body. Human orientation *depends upon the complete integration and harmonious balance of the sensorimotor system, and all the senses contribute towards its achievement"* (my emphasis).

Although the geometric figures place a particular demand on visual perception, undoubtedly the above quotation indicates that a failure on these items can implicate a variety of reasons. The connection between the letter symbol and the geometric figures of the items are limited, but indeed, at least they show an affinity in so far as both presume an adequate spatial orientation. Thus, should a child with learning difficulties attain a poor achievement on the items, this at least provides an indication of a possible inadequate spatial orientation. A more precise localization of the sensorimotor grounds for this can be established with the help of other media.

Mention has been made of the demand of logical reasoning for the successful completion of this subtest. Logical reasoning requires taking a position on a gnostic-cognitive level because it presumes

the adequate actualization of the essences of thinking such as making analogies, establishing relationships, ordering, re-construing, transforming, conceptualizing and abstracting. The latter three essences are involved in the most difficult items because verbalized understanding is indispensable for their completion.

Although the pattern completion items are designed for concrete reasoning with geometric figures, an orthodidactician also acquires insight into the abstract, verbalized reasoning potentialities of a child.[68)]

In summary, the pattern completion-items can give indications of possible organic disturbances, inadequate intellectual potentialities, sensorimotor disturbances and even affective problems.

2.3.2.2 Block design

As in the case of the pattern completion-items the Block design-items require an analysis-synthesis perceiving, during which spatial relations in the perceived material must be ordered and arranged in a particular pattern. According to Glasser and Zimmerman[69)] the following factors play a decisive role is successfully completing the task:

- Figure relationships: in order to be aware of relationships among the perceived forms or other elements of a figure.
- Figure redefinition: in order to bring about a change in interpretation so that a prescribed figural unity can b e perceived.
- Figure selection: in order to quickly judge what figure entity satisfies a presented criterion.

Spatial orientation thus plays a predominant role but taking a gnostic-cognitive position is also absolutely necessary. An adequate actualization of thinking, imagining (with anticipation as a particularization of it), remembering and perceiving are also required to handle the items successfully.

These items lend themselves as a suitable medium for pedagogical observation because they require *activity* from a child. The activity and way of being involved with the blocks can provide indications of work attitudes and dispositions that can shed important light on a child's learning style and even point to shortcomings in them. Thus, e.g., a careful observation of a child's attitude toward work, his way of engagement and the end result can indicate particular learning deficiencies, a few of which are presented as examples:

- An organic disturbance where the blocks, e.g., are handled in isolation or a loose unity without an attempt at integration;
- Sensorimotor problems such as where a child's end result does not tally at all with the pattern he must achieve.
- Limited intellectual potentialities where there is mention of limited insight such as is manifested in the perseveration of a haphazard method or an increasing blockage in the tasks that are arranged in increasing degree of difficulty.
- Affective problems that are manifested in problems of intentionality, aimless spinning of the blocks in the hands, an overhasty and careless approach or in contrast to this, an attempt at a perfectionist handling of each block separately, all of which can be manifestations of a pathic flooding.

2.3.2.3 Absurdities

The absurdities-items are orthodidactically of particular importance because they require the actualization of the essences of perceiving that are also of essential importance for the acts of reading and spelling. The items require adequate visual perception, in general, but in particular an analytic *looking* against a global background of life situations. In this way the everyday facts of life situations direct an appeal to a stable sensing and attending. In his analytic looking a child might not get lost in "affective" irrelevancies but must screen the "essential" and non-essential" data. Thus, these

items place a high demand on attending as an accompanying mode of learning.

The necessary restructuring of the essential and non-essential data into a whole requires insight as the outcome of an adequately actualized thinking, imagining fantasizing and remembering. The items thus are also important to the extent that they reflect a child's level of actualizing his psychic life.

Finally, the items provide an opportunity to evaluate the state of language-mastery and -formulations, especially in terms of the concrete and abstract-conceptual use of language.

2.3.2.4 Formboard

The formboard-items demand the synthesizing of particular forms into a specific unitary pattern. Although the global pattern is available along with the elements, the moment of analysis is lacking in the normal pattern of perceiving {from global-diffuse to analysis to synthesis to an authentic globalization). An adequate act of visual perception along with secure hand and finger dexterity are preconditions for the successful completion of the task.

The items offer the opportunity to fathom a child's approach, disposition and work attitude. This is going to be paired with, among other things, the intellectual potentialities of a child and the level of actualizing his psychic life that he shows. Thus, e.g., the approach can vary from a concrete trial-and-error to a more distanced imaginative and anticipated manipulation of the elements in space. This latter level is typified by Madge and Van der Westhuizen[70)] as "spatial visualizing". Spatial visualization, to a greater or lesser degree, plays a role in the acts of reading, spelling and computing in so far as it, as a factor in spatial orientation, contributes to the construction of unfamiliar words, etc.

Apart from an indication of a child's intellectual potentialities, the above approaches also are characteristic of a child's level of psychic life actualization.

Should a child experience problems in completing these items, the following possibilities should be considered as probable causative factors:

- Visual-motor problems;
- Inadequate actualization of the psychic life because of a labilized affectivity;
- Inadequate intellectual potentialities.

Finally, it must be emphasized that there is no claim of completeness but at the very least it is an attempt to show the relevance of the N.S.A.I.S. for orthodidactics.

2.4 Projective and expressive media

2.4.1 The Rorschach inkblot medium

In spite of its controversial nature as a medium[71)] it is difficult to think of the Rorschach as not being included in the diagnostic procedures because it illuminates a variety of facets of the child-world relationship. In addition to unraveling the intimate interwoven-ness of, among other things, the pathic and gnostic moments, as moments of lived experiencing in the person-structure, it offers valuable insights into the actualization of the psychic life, more specifically in the state of actualizing the modes of learning. This also implies indications of experiencing, willing and behaving that, in their turn, throw light on the state of a child's exploration, emancipation, objectifying, distancing and differentiation.

A pedagogical evaluation of all of the above data leads to an image of the actualization of the psychic life-in-education. The latter is especially important in so far as this throws light on disharmonious educative and teaching activities that can be disclosed further in terms of other media.

Without going into unnecessary detail, in the following attention is given to the data from the Rorschach medium that are of orthodidactic importance.

2.4.1.1 The pathic-affective structure

It is repeatedly emphasized that a stable pathic-affective level of lived experiencing is a precondition for adequately actualizing learning. Accordingly, one can expect a labile pathic-affective state of lived experiencing with a child with learning difficulties. The Rorschach data can provide evidence confirming or disconfirming such an expectation. Authors such as Kotze,[72] Van Niekerk[73] and others have localized and described a number of responses and other indications of a labilized affective life. Should an orthodidactician run across such indications in a Rorschach protocol, he can assert with a great degree of certainty that the affective life of the particular child is labilized. The following are especially indicative of a labile pathic-affective structure of lived experience:[74]

- Conspicuous increase in **Dd** responses;
- **Do** responses;
- Confabulation responses (**DW** and **DdW**);
- White-space responses (**SW** and **WS**);
- **F-** responses;
- **FC-**, **CF-** and **C** responses;
- **FY-**, **YF** and **Y** responses;
- High percentage of **A** responses;
- **O-** responses;
- Extratensive and coarctated ways of lived experiencing;
- Loose and inverted succession;
- Refusal, subject-criticism and shock;
- Various other phenomena such as a long response time and a decrease in the number of responses.

It must be stressed that this is merely a tabulation of data and that the presence of these phenomena does not necessarily lead to typifying the structure of lived experiencing as pathically-affectively labile. Factors such as quantity, the mutual relationships of the various responses to each other, etc., often play a decisive role with respect to such an interpretation.

Although the above data are of great importance for an orthodidactician, on further analysis they also provide insights into the state of a child's actualization of his modes of learning. In itself,

these data are of greater importance because they put him in a position to structure an image of the actualization of his learning.

It is known that sensing is an affectively attuned mode of learning. Sonnekus and Ferreira[75] typify sensing as pre-cognitive and predominantly subjective in nature. Therefore, the pathic-affective structure especially provides insights into the level on which sensing is actualized. The fact of **Dd**, **Do** and **DW** responses, e.g., unquestionably points to a labilized sensing because in the first two cases there is mention of a vague, diffuse analysis of the whole (or a fixation on detail without taking into account the global image). In the last case, it is continually a fixation on a few details with an attempt to synthesize that "fails" because of an inadequate analysis supplemented with subjective considerations and impressions.

A labilized sensing, thus, must lead to reading and spelling difficulties because both activities presume an adequate analysis and synthesis. In addition, it is obvious that a labile sensing allows attending to fluctuate, become attenuated and slacken and thus rule out the possibility of effective learning.[76]

2.4.1.2 The gnostic-cognitive structure

According to Van Niekerk,[77] the following data from a Rorschach protocol refer to a good quality of intelligence:

- an ordered succession;
- a high **F+%**;
- few **M** responses;
- **W**, **WD** or **WDDd** ways of interpretation;
- low **A%**
- an average **P%**
- an average **O%**
- **H** > **Hd**;
- **A** > **Ad**

According to the same author, indications of limited intellectual potentialities are the following:

- a long response time;

- low F+%;
- low O%;
- repeated responses involving a small part areas of the plates [inkblots]; and
- increase in pure C responses.

In addition to the above indications regarding the quality of intelligence, the same indications also provide detailed information about the state of actualization of the different modes of learning.

Where in the following there is reference to separate modes of learning it is once again emphasized that these to be distinguished modes of learning in their actualization take a course of learning and thus are not thought of as being separate from each other. The following reference to separate modes of learning puts an orthodidactician in a position to acquire a detailed image of the actualization of learning. As will appear later, such a detailed image of the actualization of learning is perhaps indispensable for designing an orthodidactic program for providing help.

The following interpretations can serve as examples for a detailed image of actualizing learning:

A low F+% can indicate a disturbed visual perception, especially if this is accompanied with a high number of W-, Do and DW responses. Inadequate attending can be inferred from the same responses. A predominant number of W- responses can also be an indication of an inadequate perceiving because a child possibly cannot make a meaningful leap from the global, via analysis, to a synthesis.[78)] In itself such a perception-"disposition"[•] can give rise to a deficient spatial orientation. However, the evaluation of this is directly dependent on a child's state of becoming.[79)] Should a child not fulfill the expected articulation-"attitude" there are justifiable grounds for making a provisional deduction regarding particular disturbances. A possible organic disturbance, affective problems

[•] Stander mentions a perception-"attitude", as a psychic intention, where initially a child maintains a global "Gestalt", and thus has not yet proceeded to an articulation of the 'gestalts". Out of the initial unarticulated total image a child must differentiate one by one the separated component parts. Deconstructing or articulating requires a different attitude that appears at a later stage. (Inleiding tot die taalpsigologie, p. 104).

based on pedagogical neglect or sensorimotor handicaps are a few considerations that can be put forward in this connection.

A **loose succession** and **inverted succession** can be directly connected with the fluctuation of attending, while a **long response time** can also possibly be explained by a fluctuating attending.

A low **O%**, often in contrast to a high **P%**, can point to an under-actualized imagining and fantasizing. This means, among other things, that a child is not able to make connections between his possessed experiences and the current act of perceiving.[80] Viewed in this context, an under-actualized imagining and fantasizing can be discerned as a factor in the origin of specific reading, spelling and speaking difficulties. Concept forming, or more precisely stated, the association of a specific meaning with a specific word, can be restrained by an under-actualized imagining and fantasizing because a child cannot constitute an adequate representation or image of a situation. Consequently, he can fluently read a passage without understanding its contents. In spoken language echolalia or the repetition of words heard, as an extreme case, can be related to this.[81]

Kotze[82] and also Van Niekerk,[83] interpret a high **A%** as an indication of an inflexible and rigid pattern of thinking: "A large number of **A** responses thus is an indication of an extremely restrained gnostic-cognitive lived experiencing". A large number of **A** responses is also a form of perseveration which, according to Kotze[84] can point to an inability to break through the pathic and thus hinders adequately entering the gnostic-cognitive.

The above examples ought to be an indication of how the Rorschach data can provide an essential contribution to disclosing and constructing an image of actualizing learning.

In addition, the Rorschach protocol also offers important indications with respect to spatial orientation that perhaps in all respects is reducible to corporeal ways of functioning such as motor movement, acoustic-visual perception, bodily scheme, laterality, etc. It is obvious that an orthodidactician must also have this

information at his disposal if he is to have any insight into a child's image of his actualizing of his learning.

Mention was made of the role of bodily lived experiences as a causative and accompanying factor of learning problems. A negative lived experience of bodiliness also is often going to be paired with an inadequate body scheme.[85] If indications of a negative lived experience of bodiliness are found it is at least worthwhile to verify whether and to what degree there is an inadequate body scheme.

A Rorschach protocol can provide indications of both bodily lived experiencing and bodily scheme. The following data can be an indication of negative bodily lived experiencing:

- a high A%;
- a large number of anatomical responses;
- perseveration of particular bodily parts that can be lived experienced as problematic in light of a child's learning image;
- specific content responses such as references to blood, intestines, etc.

A weak body scheme (or body image), e.g., can be reflected in a large number of Do responses, object-subject criticism,[86] symmetric responses,[87] and so-called anatomical-position responses where anatomical responses are given not in accordance with form, color or content but according to the position on the inkblot (e.g., "head" merely because it at the top of the inkblot).

These factors that are indicative of unfavorable bodily lived experiencing and a weak body scheme or image, in a variety of ways play a definitive role in giving rise to a deficient self-concept or deficient self-interpretation. Self-concept is of a conspicuously higher order of abstraction than body image because it acquires its preponderant flavor within the personal-social dimension. Experience in the Child Guidance Institute, University of Pretoria, has shown that a child with learning difficulties often shows a deficient interpretation of self. Thus it is of cardinal importance to determine whether there is possibly a deficient self-concept because

this greatly defines the pedotherapeutic aspect of the orthodidactic program for providing help. In this connection, the Rorschach data can be of inestimable value. The following can point to a deficient interpretation of the self:

- low **P%**;
- a small number of **M** and **Md** responses;
- an **introversive experiencing**;
- **flexor kinesthetic movements**;
- **object** and **subject criticism.**

2.4.2 Man-, tree- and house-drawing

Above and beyond the current interpretation of graphic expressions in terms of detailed criteria as explicated by, among others, Van Lennep,[88] Van Niekerk,[89] Koch,[90] as well as Nel and Esterhuizen,[91] the orthodidactician indeed focuses on those facets that are related to spatial orientation.

In an earlier citation by Mykelbust and Johnson (see reference[67]) it was indicated that there is a close relationship between spatial orientation and a child's corporeality. Gouws[92] states this specifically when he asserts that the body serves as a point of origin for spatial orientation. It is the center or seal of the bonded-ness between a person and his world. On the basis of the central position of the body that is then the point of origin for perceiving and acting, a person orients his world, and he can also find his way because everything is concerned with his body and from his body he can indicate left and right, in front of and behind.

Since person- and tree-drawings are viewed as a reflection of the image that the drawer has of himself with respect to his environment, the graphic expressions have a high diagnostic value regarding his body image and body scheme. From an orthodidactic perspective a careful determination of their quality is of the greatest importance especially if one takes into account that normally learning difficulties are manifested in language problems.

Language use, in whatever form, includes a temporal-spatial aspect. Thus, e.g., the act of writing includes a transformation from an

acoustic-temporal to a visual-spatial order, while reading implies the opposite. Where learning difficulties often manifest themselves in language problems, it is necessary for an orthodidactician to interpret the graphic expressions against the background of a possible distorted body image and body scheme.[93] From the nature of the matter, the interpretation must occur in light of a child's longitudinal level of becoming.

In this respect, the following indications are of particular importance:

- bodily proportions (also including proportional relationships of the mutual parts);
- symmetrical deviations;
- perspective deviations, especially where particular parts are drawn in profile and others from a frontal view;
- position of the drawing on the paper that especially can be an indication of laterality- and/or midline-problems;
- appearance of figures in which particular details are important.

Finally it must be emphasized that a negative bodily lived experience often accompanies a weak body image and scheme and that, in itself, has decisive relevance for insight into the image of actualizing learning by a child with learning difficulties.

2.4.3 The Wartegg drawing medium

This medium offers trustworthy information about a child's intelligence, thinking, affectivity, interests, sociability, artistic potentialities, motor skills, etc. The interpretations and possible significance are explicated in detail by Van Niekerk,[94] among others, and the interested reader is referred the work of this author.

For an orthodidactician, this medium offers additional information especially in so far as it throws light on the particularized modes of learning that figure strongly in the acts of reading, spelling and computing.

The medium presents a child with specific problems and their solution requires a high degree of thinking on a creative level. A child is faced with the task of creating something new in terms of everyday graphic drawings. The creativity is in making relationships and identifications between the graphic drawings in an unusual way with the aim of reaching something new. The emphasis is especially on making *unusual* relationships and their connection with respect to a *specific aim.*[95)]

The inference that must be made from this is that the quality of a child's solutions is directly related to the level of the actualization of his psychic life. In this connection, one especially thinks of attending, remembering, thinking, imagining, fantasizing and perceiving. Particularized modes of learning such as identifying, anticipating, expecting, classifying, analogizing, etc. play an important role and these are just the insights acquired by this medium and which makes it a valuable orthodidactic medium.

2.4.4 Thematic projective media

The question of whether the thematic projective media have relevance for an orthodidactic investigation can be answered affirmatively by, in the first place, indicating that these media lend themselves, as supplements, to introspectively accessible, "subjective" findings, by making available essential data with respect to a child's learning world as an experiential world.[96)]

In accordance with ontological-anthropological pronouncements it is a primordial fact that he who wants to be known cannot manifest *himself* but only his *primordial relatedness to being.* Where the themes in the form of visual images on the different projective media direct an invitation to a child to establish a relationship, they offer an orthodidactician the opportunity to better understand the nature of a child's relationships. In truth, the themes serve as a "projector screen", or in Van Lennep's language as a point of involvement in terms of which a child can project his own feelings, thoughts, deeds and meanings.[97)]

The disclosure of various learning relationships is of cardinal importance because in many respects are form the keystone for

understanding a child's learning problems. Kotze[98)] mentions learning relationships such as with things in and out of school, with peers, with adults, especially with his parents and teachers, etc. as being essentially important for understanding the learning world of a child. Moreover, if it is taken into account that a child with learning difficulties shows himself in a disharmonious relationship in terms of the event of double unlocking [teaching-learning], the imperative for insight into this relationship is underlined.

In addition to the interpretation of the projective expressions, the media also put an orthodidactician in a position to evaluate the level of actualization of the psychic life of a child-in-education.

This occurs by using, among other things, pedagogical criteria in terms of which linguistic expressions are evaluated. In this way there can be a gauging of, among other things, the pathic-affective and gnostic-cognitive dispositions as well as the state of a child's intentional directed-ness.[99)]

The pathic-affective is evaluated in terms of impulsivity, lability and stability as distinctive levels of actualization;[100)] the gnostic-cognitive is evaluated in terms of the actualization of the modes of learning, among other ways.

In addition, the projective expressions ought to provide reliable indications of labilizing and stabilizing interpersonal relationships that can serve as a possible basis for a child's learning problem.

On top of this, the thematic projective media offer an additional dimension to the orthodidactic diagnostician because language, as learning effect, is available for analysis and interpretation. If Dumont's pronouncement is taken into account that learning difficulties indeed show themselves in language difficulties, this means that language, now viewed as subject didactic contents, must undergo a careful analysis.

Thus, the attention shifts to the language mastery of a child in order to tabulate and organize gaps, errors and deficiencies. Without a detailed image of language errors, in terms of types, occurrences and under what circumstances they are committed, no diagnostic

image can make the claim of completeness: On the one hand, language errors provide valuable supplementary information regarding the possible bases for a child's learning difficulties, and on the other hand, no accountable program for providing help can be planned without these data. Thus, e.g., a clearly formulated teaching aim simply is not even possible based on matters such as the reduction of learning material, determining what was "Einstig" [formerly], lesson enlivenment, etc.

Since the thematic projective media belong structurally under language media, detailed information about them is reinforced in connection with a discussion of language media

2.5 Language media

If it is kept in mind that orthopedagogic-orthodidactic research aims to uncover a learning image as an image of lived experiencing, thus, to disclose a person-world relationship of a child with learning difficulties, it can be nothing more than that language must constitute an integral moment in diagnostics. According to Langeveld, in each facet that it shows itself, language points to human situatedness.[101)]

Van der Stoep[102)] agrees with this when he asserts that a person shows the activities constitutive of his own existence through his use of language; that language is the most important means that puts a person in a position to be *by* things and to participate *in* the events that we know as life.

Essentially language is a means of communication. Thinkers such as Camus, Sartre and Christoff emphasize that being human must continually occur via the other, i.e., via the world of fellow humans, thus through communication.[103)] Communication with others occurs especially by means of language, and because of this intersubjective conversation we also arrive at a conversation with the things of the world.[104)]

Thus, language does not have a haphazard character. It is and remains a manifestation of a personal world involvement and because of its ordered structure, it lends itself as a diagnostic

medium. Where a child with learning difficulties is confronted with a variety of language media in a diagnostic situation, this means that his attenuated linguistic dialoging must find form. His linguistic expressions are the culmination point in which the totality of his world involvement becomes observable and, therefore, his linguistic expressions, in both form and contents, will manifest his attenuated world involvement.

Van der Stoep[105)] distinguishes two facets in researching the language of a child:

* The *formal analysis* of the particular scope of linguistic data over which a child must have formal control to be able to enter into meaningful dialogue with his own existence and also to arrive at an adequate acquisition and appropriation of his own cultural goods. This analysis involves an error-analysis in terms of linguistic criteria that, among other things, looks at the child's mastery of syntax, spelling, punctuation, vocabulary, etc.

An organized and tabulated error-protocol provides an orthodidactician insight into the nature and occurrence of the difficulties a child has with his language. By means of careful interpretations and deductions, indications of the level of actualizing the psychic life can even be acquired, or even indications of possible learning disturbances and deficiencies.

However, this decidedly cannot disclose causes simply because linguistic criteria do not lend themselves to accessing a child's world of meaning. For this, other criteria are needed and this is discussed under the following facet.

* A *language evaluation* by which there is an attempt to understand and appreciate a child as a language-using person. Here a child is explored as his language, i.e., as a child in a language-relationship with his world. This involves a search for the child as a person, a search for the connection between his language and the forms of lived experiencing.[106)] And therefore this primarily has to do with evaluating his language in terms of pedagogical criteria because only in terms of them, backed up by a refined intuitive attunement,

can there be movement on the language trail of a child so that his world can be disclosed as a language relationship.

In this connection, the language errors mentioned above are not ignored: Although not fixated on them, according to Van der Stoep[107] this involves rather a reflection on how the deficiencies impinge on his constituting a world. The answers to the following questions formulated by Van der Stoep,[108] will give the reader an idea of what information an orthodidactican can get from a language evaluation:

- Does the child have at his disposal the language ability to be able to interpret the task, also as a meaningful matter in his landscape?
- Is there mention in his approach of real intentional activity and, if yes, to what degree is it directed to the task?
- Does the language block explicating, as an aspect of the autonomous act of learning, with the result of weak integration and insight?
- How do matters such as these and the related lack of success impinge on the child as a person-with-affect and as someone who wants to be someone?

From the above questions it seems clear that language analysis involves the whole range of a child's being a person but that some beacons can be touched on briefly in terms of which such an evaluation occurs: It is deemed unnecessary to give an elaborate reason for the following beacons and a few comments about each will suffice:

- *Actualizing the cognitive life*. Language is the means of ordinal and ordered understanding and therefore is inevitably involved in actualizing the cognitive.
- *Actualizing the affective life*. The essence of a person's world is that it is primarily realized through feelings and here language is a primary mode of giving meaning which means that language is necessarily saturated with emotional lived experiencing.[109]
- *Actualizing intentionality*. The affectively saturated language expressions include the implicit meaning of an intentional

> distinctness because reflected in the emotional are the reciprocal relationships between a person and his intentional object, between a person and his world.[110)]

The present discussion clearly shows that every language expression of a child, be it in written or spoken form, has orthodidactic relevance. Seen in this light, where language is of concern, the entire orthodidactic investigation serves as a medium for a language-analysis and –evaluation. In order to insure that each variation in language receives the necessary attention, a child is also confronted with specific language tasks such as reading, spelling, computing, formulating, comprehension tests and the composition.

Through analyzing and evaluating a lot of data are made available, not only with respect to the three mentioned categories but in refined and particularized forms. Thus, e.g., detailed information is obtained about the to be distinguished modes of learning, the level of actualizing the pathic-affective, factors that influence a child's intentional directedness, etc.

It is once again emphasized that an error-protocol is of invaluable worth for an orthodidactician, among other things, for setting up an orthodidactic plan of learning. Even so, the errors must never be dealt with as causes in themselves.

In the following, the various language media are presented but only in terms of the information they can make available to an orthodidactician.

2.5.1 The conversation

Essentially this involves a conversation for gathering historicity data as provided by a child himself. Auto-historicity data are of great importance because a child converses about his own situatedness and his ways of being, dispositions, relationships, etc. become observable through communicating his experiences, ways of acting and lived experiences.

A careful listening to a child's language use can put an investigator on the trail of particular forms of disturbance that can have a direct

restraint on a child's actualization of learning: Thus, e.g., indications can be found of a *sensory defect,* especially on an acoustic level by attending to a child's continued attempts to read aloud or to the fact that questions and assignments must continually be repeated before he understands, etc.

A perceptual disturbance such as *acoustic agnosia* manifests itself as a child being able to hear but not able to understand. In other words he does not have the ability to understand the meaning of a sound as a symbol.[111] Although a distinction between deafness, mental deficiency and acoustic agnosia cannot merely be determined in a conversation—all three forms of disturbance are manifested in "identical" behaviors such as not understanding, seclusion, resistance—the conversation at least can contribute to specialized research in this connection.

Indications of *aphasic* and *dysphasic* disturbances are also ascertainable in the conversation. According to Stander[112] aphasia can show itself in that a child can know what he wants to say but is not in a position to put his thoughts into words. Dumont[113] refers to the degree of disturbance and indicates, among other things, that an aphasic person can understand independent nouns and verbs but can experience problems with relative pronouns or abstract words, or words that express quality, etc.

Dysphasic children are able to easily find a word and then often fall back on platitudes such as "thing", "something", "what do you call this again?", etc.

Above and beyond the forms of disturbance, a conversation also offers insights into the modes of actualizing the affective and cognitive life. Thus a labile-pathic or stable-affective level of lived experiencing can be read off of the various attitudes or positions that a child assumes during a conversation, while the level of actualizing the cognitive also can be inferred from the conversational situation. The use of clichés, the definition of abstract concepts rather than the use of abstractions themselves, the forgetting of obvious facts, the use of adjectives, adverbs and others are all indications of the level of the actualization of the psychic life.

Besides this, they also are an indication of the quality of a child's experiencing, lived experiencing, willing, knowing and behaving.

2.5.2 Reading and spelling

As already mentioned, for various reasons the reading and spelling protocols are extremely valuable for an orthodidactician. The mere fact that these media announce themselves as "formal" schoolwork and also presume a direct confrontation between a child and his learning errors, make the pedagogical observation data obtained here of high value. A child finds himself under another's evaluative look while he is confronted with a formal task from which he cannot escape. He must give form to that from which he expects the greatest difficulty, and it is in such instances that he shows himself as disabled. Then his quick breathing, his moist, sweaty wriggling hands, his almost pathetic attempt to conceal his written work and deleted words, etc. acquire much greater significance because they are manifestations of his most intimate lived experiencing.[114)]

It was mentioned that the reading and spelling protocols can be indications of possible learning defects. However, one must be cautioned beforehand that any reading and spelling errors—not merely objectively explainable[115)]—must be understood in relationship to other data. Often the errors have a variety of possible explanations, and the ultimate cause rests on the data with which it is brought into a cross-comparison.

Various studies such as by Van der Stoep,[116)] Gouws,[117)] Stander,[118)] Muller,[119)] Hallgren,[120)] Ombredane,[121)] Vliegenthart,[122)] and others have identified reading and spelling errors that are typical of children with reading and spelling difficulties. The reading and spelling errors show a remarkable agreement such that it is sufficient to note the following:

- Reversals of all types;
- Confusion of letters that show slight variations in form such as **k** and **h**, **t** and **l**, **m** and **n**, **C** and **G**, etc.;
- Spelling of diphthongs;

- Errors in violation of the doubling rules for vowels and consonants that include problems with open and closed syllables;
- Inclination to spell phonetically;
- Elimination of letters from words, or of words, phrases and even sentences;
- Reversal of letters in words;
- Errors in violation of spelling rules;
- Misreadings, changes in word order and anticipations.

Although there will not be an attempt to couple each type of error with a possible cause, a few error types are presented as examples to show that they indeed can point to possible causes:

* *Reversals*:

Must be evaluated in terms of the level of becoming of a child with learning difficulties. When an older child makes such errors, it can be asserted with a relative degree of certainty that he shows a basic lack of sense of direction that, in its turn, once again refers back to the following possibilities:

- Weak lateralization and other motor disturbances;[123)]
- Weak mastery of the writing system as a meaningful system of symbols;
- Inability to make accurate visual discriminations with an underlying figure-ground disturbance;
- A direction-"carelessness", as a defective notion of spatial relationships, and that is typical of a child not-yet-ready-to-read, according to Stander.[124)]

** *Errors in violation of the doubling rules for vowels and consonants:*

Dumont[125)] asserts that this type of error is one of the most prevalent. Basically this means a violation of a spelling rule but at the same time this is closely related to a phonetic approach or disposition where a child constitutes words in terms of what he hears.

The following causes can be of relevance:

- An inadequate attending by which a child uses the phoneme as a "pillar of support" for changing them into graphemes. Closely connected with this is:
- An ineffective dealing with a word as a *visual "gestalt"* or concept. In other words, a child is not able to handle the word in the activity of writing as an articulated or differentiated gestalt, as distanced from the sound, i.e., conceptually;[126)]
- Didactic neglect because the rules of spelling were not adequately unlocked or practiced, and;
- Intellectual deficiencies.

*** *Misreadings:*

The problem of misreadings is common in the act of reading of children with learning difficulties. Gouws[127)] asserts that the degree of reading speed (tempo) attained is the last thing that a child gives up because it creates the impression in the listener that he indeed is a good reader. The problem is thus reduced to an inadequate analysis and synthesis of the written word so that, at best, a child shows a global-diffuse perception of words.

The following possible causes can lie at the foundation of misreadings:

- A labile affectivity that, at is worst, can manifest itself in reading anxiety;
- An unreadiness to read paired with didactic neglect by which a child is not systematically guided to segmenting or differentiated structuring.[128)]
- Perceptual disturbances that can range from a physical disturbance to psycho-linguistic disturbances.

Here it is emphasized that pronouncements in terms of a few typical reading and spelling errors are particularly risky and that they must not only occur against the background of the entire learning image of a child but, in particular, also in light of a disharmonious teaching situation.

In this connection, Van der Wessel and Bakker[129] make an interesting contribution with the establishment of five error-categories that can serve as indications of the most important problems. They distinguish among the following main groupings, each of which is comprised of four to five typical errors:

- Visual dyslexia and dysorthography;
- Auditory dyslexia and dysorthography;
- Transformation of an auditory word-image into a visual word-image and the reverse;
- Language problems as a source of writing errors;
- Spelling rules as a source of errors.

For a comprehensive discussion, the interested reader is referred to the work mentioned, and therefore two of the main groupings will suffice as examples:

- Visual dyslexia and dysorthography—

    - Reversal of diphthongs;
    - Interchanging **d** and **b**;
    - Interchanging **d** and **b** on the one hand and **p** and **q** on the other hand;
    - Interchanging visually related letters such as **k** and **h**, **t** and **l**, **m** and **n**, etc.;
    - Interchanging letters with analogous sounds such as **au/ou/ouw**; **ch** and **g**; etc.

- Auditory dyslexia and dysorthography—

    - Interchanging sounds such as **ee** and **i**, **eu** and **u**, **ui** and **eu**, **ie** and **i**, **uu** and **ui**, etc.;
    - Interchanging consonants such as **f** and **v**, **s** and **v**, **s** and **z** (as in Dutch: **zchip** and **schip**);
    - Inserting or omitting an extra syllable where, viewed phonetically, it is not illogical (such as in Dutch: **werreken/werken**, **Gert/Gerrit**, etc.);
    - A word completely written or read phonetically. Dumont[130] asserts that a child's errors can extend

over all five categories but that they will center on a few main groupings.

2.5.3 Dictation

The results of a bit of dictation provide important data especially with regard to the state of a child's auditory memory and discrimination. Apart from the errors, both in quality and quantity, the continual asking to repeat phrases and words can raise the suspicion of a disturbed auditory discrimination or inadequate auditory memory.

The dictation might also point out or confirm the inability or partial inability to transform an auditory "image" into a visual (written) word. The detection of such a problem is particularly difficult because it is realized on a psycho-linguistic level, i.e., where an integration must occur between, among others, the auditory and visual modalities of learning.[131)] The integration must again result in concept forming as the transformation or synthesis or figuring forth of reality into language.[132)]

Besides this, the dictation also provides indications of the level of the actualization of the psychic life since the task presumably requires adequate attending, thinking, perceiving and remembering.

Finally, this medium also is important in so far as it provides the opportunity for pedagogical observation. Dictation requires the activity of writing that is carried out under a certain degree of pressure and therefore a child's writing, his pencil grip and general behaviors are of great importance in evaluating maters such as his intentional directedness, the level of actualization of the affective and cognitive, etc.

2.5.4 Transcription

This task requires that a child reproduce a text in his own handwriting on a piece of paper. To decrease the chance that he will automatically copy the text letter-by-letter it is not presented next to him but on a chalkboard. In this way he, as it were, is compelled to transfer the word image from a ""vertical" to a

"horizontal" position. This alone requires an adequate attending, perceiving, remembering and thinking, especially the latter in terms of transforming the visual word image into a conceptualized concept. The evaluation of this rests on careful observation, while the writing image, in itself, also can give indications of copying or conceptualizing.

2.5.5 Comprehension tests

The comprehension test assumes an important place in the investigation of learning difficulties because it is the one language medium that makes an appeal to insightful thinking. According to Van der Stoep[133)] a correct answer to a comprehension item requires, among other things, insight into the text read, as such; insight into the relationship of the question to the context, insight into the relation of answer to answer that obviously implies a logical structure, etc. In this way a child must move away from specific questions of content in order to construct a logical conclusion. In other words, at most the text must function as a frame of reference as a result of which a child can push through to a correct response by sifting data, comparing, making connections, thinking logically, etc. The comprehension tests really pin down a child's thinking and ask of him an actualization of his thinking on an abstract level. Paired with this they also make the demand of a corresponding mastery of language with precise formulations. The comprehension test answers, therefore, are to be interpreted as nothing more than a reflection of the degree to which he shows insight during a particular task of thinking.

Above and beyond the above information, the comprehension tests make a lot of data available to an observing pedagogue, all of essential importance for establishing a learning image as a lived experience image. Van der Stoep[134)] mentions, among other things, the following: The use made of the text; the mode of attack; the tempo; the availability of the language; excessive seeking of help; stagnation of thinking and the child's attitude if this occurs; functioning of memory; deviation in behavior; desire for achievement; confusion and perplexity; tenseness; anxiety; taking a reasoned position; and self-confidence and matter-of-factness.

Supplementary to this, these tests also provide insight s regarding sensory functioning, the state of conceptual reading, etc.

2.5.6 The composition

The composition brings forth information about the productive involvement with language in written form. This implies a conversation in solitude, a conversation with self, with only the theme of the essay as a guideline for actualizing the psychic life. Therefore the theme gives indications of the gnostic-cognitive level (in terms of ordering, structuring, knowledge structure, the latter especially in so far as the theme of the composition requires factualness), the pathic-affective level (during which the moment of projective expression plays a dominant and decisive role) and also the volitional disposition of a child.

In practice this often comes down to the fact that the composition is combined with a projective medium such as the Four Pictures of Van Lennep. Above and beyond the projective expressions, this medium also gives insights into cognitive details such as the integration of the four pictures into a meaningful whole, the analyses of the separate pictures, the degree of disorder, etc.

2.6 Media for evaluating specific ways of actualizing the psychic life

Spoken language, as the most original form of language, shows a temporal order because each word is essentially a stream of sound represented by successive phonemes. The written language, in contrast, represents a fundamental change from a temporally ordered stream of sounds to a spatially ordered system of graphemes.

From this it follows logically that a child who wants to read, spell and compute adequately must be more explicitly willing to adequately learn to have at his disposal a well-differentiated temporal-spatial orientation. Such an orientation mainly is brought about by a complete integration and harmonious balance of the sensorimotor system.[135)] In the contemporary literature this underlying system is known as perceptual-motor functions, while

Dumont[136] refers to this as the substructure of basic functions. Kok[137] refers to it as basic modalities of learning and Van Niekerk[138] describes it as specific modes of actualizing the psychic life.

In the author's judgment, the latter term is more preferable because it purposefully avoids the artificial separation of the learning event and the resulting reduction of it to separate substantive "functions". By the nature of the matter, the perceptual-motor functions can be nothing more than particularized and refined modes of learning that are continually actualized in the act of learning.

Dumont[139] offers a comprehensive idea of all of the aspects that he views as preconditions for adequate language mastery (and thus reading). Van Niekerk[140] also gives an overview and adds a particularly complete list of diagnostic media while also discussing a few of them. Since the majority of media are designed for and focused on acquiring specific information, the orthodidactic relevance of each will not be pointed out. A tabulation of their various aspects as shown by Dumont[141] will suffice:

2.6.1 Sensory-motor

- Sensory aspects
    - Hapatic information
    - Sense of direction
    - Body schema, also including laterality awareness
    - Finger dexterity
    - Sense of equilibrium
- Motor aspects
    - Gross motor movements
    - Fine motor movements including eye-hand coordination, handling objects and sense of direction

2.6.2 Visual perception

- Instrumental functions under which aspects such as visual acuity, convergence and "scanning" fall
- Cognitive visual functions.
    - Visual discrimination

- Figure-ground perception
- Visual perception of spatial relationships
- Visual synthesis

2.6.2 Auditory perception

- Instrumental level
- Cognitive level
  - Auditory concentration
  - Auditory discrimination
  - Auditory memory

2.7 Media attuned to the curriculum contents

For the further disclosure of deficient learning results, diagnostic and scholastic tests are implemented. Also the school textbook can serve as a basis for a more careful determination of the deficiencies with respect to a particular subject matter area. This implies that an orthodidactician must be abreast of the various curricula. Without such knowledge he will scarcely be able to evaluate a child's achieved level in terms of the level achievable.

3. SYNTHESIS

The above discussions give evidence of the various interpretive possibilities of some orthodidactic media. With the help of these data, an orthodidactician is in a position to establish the potentialities for actualizing learning, the deficiencies in doing so and the deficient learning outcomes of a child with learning problems.

Together with the didactic reflections as discussed in chapter three, an orthodidactician then is able to design an accountable orthodidactic program for giving help. The course of each program occurs by means of orthodidactic lessons that, in themselves, imply an accountable design.

In chapter five an example is given of how a program is set up to provide orthodidactic help..

REFERENCES

1. See: VLIEGENTHART, W. E.: *Op gespannen voet,* p. 96.
2. See: GOUWS, S. J. L.: *Pedagogiese diagnostisering van kinders met leermoeilikhede,* p. 3.
3. See: VAN NIEKERK, P. A.: *Die onderwyser en die kind met probleme,* p. 10.
4. See: HAMILTON, J. H.: *Die opsporing van spesifieke leermoeilikhede,* in: *SAVLOM-Bulletin, 1975-1,* p. 23.
5. VAN NIEKERK, P. A.: *Wie is die kind met spesifieke leergeremdhede?* in: Van Niekerk, P. A. and Sonnekus. M. C. H.: *Die kind met spesifieke leergeremdhede,* p. 8.
6. See: SONNEKUS, M. C. H.: *'n Beesinning oor die pedagogiese ondersoek en behandeling van kinders met leermoeilikhede,* in: Nel, B. F.: *Jubileum-lesings 1937-1962,* p. 138.
7. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* p. 42.
   {**English translation:**
   http://www.georgeyonge.net/node/96]
8. VAN DEN BERG, J. H. and LINSCHOTEN, J. (Eds.): *Persoon en wereld,* p. 248.
9. See: VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit.
   GOUWS, S. J. L.: *Pedagogiese diagnostisering van kinders met Leermoeilikhede,* op. cit.
   DE NECKER, J. G. H.: *Die betekenis van die anamnese in die pedodiagnostisering van kinders.*
10. See: VAN GELDER, L.: *Ontsporing en correctie,* p. 70.
11. GOUWS, S. J. L.: op. cit., p. 32.
12. Ibid, p. 32.
13. Ibid. p. 32.
14. See: STANDER, G. and SONNEKUS, M. C. H.: *Inleiding tot die ortopedagogiek,* p. 27.
15. NANNINGA-BOON, A.: *Denken en taal,* p. 143.
16. PRICK and CALLON, as cited by Gouws, S. J. L.: op. cit., p. 33.
17. KEPHART, N. C.: *Perceptual-motor aspects of disabilities,* in: Frierson, E. C. and Barbe, W. B. (Eds.): *Educating children with learning disabilities*, p. 405.
18. See: NEL, B. F. and SONNEKUS, M. C. H.: *Psigiese beelde van kinders met leermoeilikhede.*
   LANDMAN, W. A.: *Die psigologies-pedagogiese betekenis van liggaamlike afwkinge by kinders,* in: *Opvoedkunde Studies, special issue,* pp. 127-145.
   ENGELBRECHT, C. S.: *Die samehang tussen liggaamsbelewing en leerprobleme by die kind.*
19. Ibid, p. 102.
20. Ibid, p. 102.
21. See: MYKLEBUST, H. R. and JOHNSON, D. J.: *Learning disabilities,* pp. 32-44.
22. See: GOUWS, S. J. L.: op. cit., p. 29.
   STANDER, G. and SONNEKUS, M. C. H.: op. cit., p. 47.
   VAN GELDER, L.: op. cit., p. 84.
23. POS, H. J.: *Het affect en zijn uitdrukking in de taal,* in: *Keur uit*

de verspreide geschriften, part I, p. 52.

24. PERQUIN, N.: *Algemene didactiek,* p. 32.
25. PRETORIUS, J. W. M.: *Die problematiese opvoedingsituasie,* p. 40 et seq. [**English translation:** http://www.georgeyonge.net/node/89]
26. FERREIRA, G. V.: *Die kind met leerprobleme in die praktyk: Die pedagogiese gesprek met die ouers,* in: Van Niekerk, P. A. (Ed.): *Hulpverlening aan kinders met leerprobleme,* p. 87. [**English translation:** http://www.georgeyonge.net/node/80]
27. See: KWANT, R. C.: *Fenomenologie van de taal,* p. 39.
28. See: VAN DER STOEP, F.: *Taalanalise en taalevaluering as pedagogies-didaktiese diagnostiseringsmetode.*
29. See: HURLOCK, E. B.: *Child development,* p. 187.
30. See: JERSILD, C.: *Child psychology,* p. 103.
31. See: NEL, B. F. and VAN DER STOEP, F.: *Wereldverhouding en taalimplementering by die dowe kind.*
    MEIJERS, J. A.: *De taal van het kind.*
    LANGEVELD, M. J.: *Ontwikkelingspsychologie.*
    NIJKAMP, W. M. and DAANE, J.: *De kleuter: zijn taal, zijn boeken.*
    SONNEKUS, M. C. H.: *Die leerwereld van die kind as betekeniswereld.*
32. See: DUMONT, J. J.: *Leerstoornissen,* p. 10.
33. See: STANDER, G. and SONNEKUS, M. C. H.: op. cit., p. 57.
34. SCHENK, V. W. D. and KORNDORFFER, A. B.: *Lees- en schrijfstoornissen bij kinderen,* p. 111.
35. VERNON, M. D.: *Reading and its difficulties,* p. 70.
36. GOUWS, S. J. L.: *op. cit., p. 31.*
37. See: LANGEVELD, M. J.: *Ontwikkelingspsychologie,* op. cit., p. 58.
38. BERNSTEIN, B.: *Some sociological determinants of perception,* in: *British Journal of Sociology, no. 9,* p. 159.
39. Ibid, p. 159.
40. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., p. 30.
41. See: ibid, p. 31.
    SONNEKUS, M. C. H.: *A pedodiagnostical study of the handicapped child, with particular reference to his sensory, motor, perceptual and conceptual orientation,* in: Sonnekus, M. C. H. (Ed.): *Papers on the handicapped child,* pp. 135-155.
    GOUWS, S. J. L.: op. cit., p. 38.
42. See: GOUWS, S. J. L.: op. cit., p. 36.
43. See: KEPHART, N. C.: op. cit., pp. 405 et seq.
44. See: GOUWS, S. J. L.: op. cit., p. 74.
45. See: STANDER, G. and SONNEKUS, M. C. H.: op. cit., p. 106.
    GOUWS, S. J. L.: op. cit., pp. 72 et seq.
46. See: SONNEKUS, M. C. H.: in: Nel, B. F.; Sonnekus, M. C. H. and Garbers, J. G.: *Grundslae van die Psigologie,* p. 260.
47. See: Ibid, pp. 260-261.
    SONNEKUS, M. C. H. and FERREIRA. G. V.: *Die psigiese lewe van die kind-in-opvoeding,* pp. 114 et seq.
48. See: NEL, B. F. in: Nel, B. F.; Sonnekus, M. C. H. and Garbers, J. G.: op. cit., Chapter 3.
49. See: O'CONNOR, J.: *Psychometrics.*

50. See: JOUBERT, C. J.: *Beroepskeuse as verantwoordelike en verantwoordbare keuse: 'n studie in beroepsorientering.*
51. See: VAN DER STOEP, F.: op. cit., p. 106.
52. Ibid, p. 107.
53. For a complete description of the various media, See: VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., pp. 70-76.
54. See: SONNEKUS, M. C. H.: in: Nel, B. F.; Sonnekus, M. C. H. and Garbers, J. C.: op. cit., pp. 261 et seq.
55. See: GOUWS, S. J. L.: op. cit., Chapter 1.
56. MADGE, E. M. and VAN DER WESTHUIZEN, J. G.: *Die Nuwe Suid-Afrikaanse Individuele Skaal as kliniese hulpmiddel,* p. 8.
57. KOTZE, J. M. A.: *Die leefwereld van die breinbeskadigde kind as beleweniswereld,* p. 223.
58. MADGE, E. M. and VAN DER WESTHUIZEN, J. G.: op. cit., p. 10.
59. See: Ibid, p. 10.
60. SONNEKUS, M. C. H.: in: Nel, B. F.; Sonnekus, M. C. H. and Garbers, J. C.: op. cit., p. 255.
61. MADGE, E. M. and VAN DER WESTHUIZEN, J. G.: op. cit., p. 15.
62. VAN GELDER, L.: op. cit., p. 169.
63. VAN DER STOEP, F.: *Algemene taal- en leesprobleme by ondersoek na probleme in rekene,* in: *Tijdschrift voor Orthopedagogiek,* p. 5.
64. GOUWS, S. J. L.: op. cit., p. 79.
65. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., p. 101.
66. Ibid, p. 101.
67. JOHNSON, D. J. and MYKLEBUST, H. R.: op. cit., p. 291.
68. See: MADGE, E. M. and VAN DER WESTUIZEN, J. G.: op. cit., p. 21.
69. GLASSER, A. J. and ZIMMERMAN, I. I.: *Clinical interpretation of the WISC,* p. 23.
70. Ibid, p. 29.
71. See: GOUWS, S. J. L.: op. cit., p. 48.
72. KOTZE, J. M. A.: op. cit., pp. 231-246.
73. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., pp. 226-247.
74. VAN NIEKERK, P. A.: Ibid.
75. SONNEKUS, M. C. H. and FERREIRA, G. V.: op. cit., p. 115.
76. See: Ibid, p. 117.
77. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., pp. 242-243.
78. See: DU TOIT, A. S. *Ortopedagogiese-ortodidaktiese diagnostisering en hulpverlening ten aansien van kinders met taalprobleme,* in: Sonnekus, M. C. H. (Ed.): *Die leermoeilike kind,* pp. 122-159. [**English translation:** http://www.georgeyonge.net/node/103]
79. See: KOTZE, J. M. A.: op. cit., p. 241.
80. See: SONNEKUS, M. C. H. and FERREIRA, G. V.: op. cit., p. 130.
81. See: JOHNSON, D. J. and MYKLEBUST, H. R.: op. cit., pp. 29-30.
82. KOTZE, J. M. A.: op. cit., p. 237.
83. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., p. 242.

84. KOTZE, J. M. A.: op. cit., p.237.
85. See: DU TOIT, A. S.: *Die kind met leerprobleme in die praktyk,* in: Van Niekerk, P. A. (Ed.): *Hulpverlening aan kinders met leerprobleme,* pp. 92 et seq. [**English translation:** http://www.georgeyonge.net/node/80]
86. BOHM, E.: *Rorschach test diagnosis,* p. 91.
87. Ibid, p. 111.
88. VAN LENNEP, D. J.: *Four picture test.*
89. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., pp. 142-207.
90. KOCH, K.: *Der Baum-Test.*
91. NEL, B. F. and ESTERHUIZEN, C. H.: *Die tekening van die menslike figuur as 'n projeksietegniek.*
92. GOUWS, S. J. L.: op. cit., p. 53.
93. See: DE HIRSCH, K.: *Tests designed to discover potential reading difficulties at the six year old level,* in: Frierson, E. C. and Barbe, W. B.: op. cit., p. 308.
94. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., pp. 208 et seq.
95. See: STAGNER, R. and KARWOSKI, T. F.: *Psychology,* p. 419. MORGAN, C. T. and KING, R. A.: *Introduction to psychology,* pp. 169 et seq.
96. See: GOUWS, S. J. L.: op. cit., p. 45.
97. See: VAN LENNEP, D. J.: *Psychologie van projectieve verschijnselen.*
98. KOTZE, J. M. A.: op. cit., p. 251.
99. See: VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., pp. 269 et seq.
VAN DER STOEP, F.: *Taalevaluering as pedagogiese diagnostiseringsmetode,* in: Opvoedkunde studies, special issue, p. 107.
100. See: SONNEKUS, M. C. H. (Ed.): *Psigopedagogiek: 'n Inleidende orienteering,* p. 21.
101. LANGEVELD, M. J.: *Bevryding door beeldcommunicatie.*
102. VAN DER STOEP, F.: *Taalanalise en taalevaluering as pedagogies-didaktiese diagnostiseringsmetode,* op. cit., p. 104.
103. See: CAMUS, SARTRE and CHRISTOFF as cited by: Bakker, R.: *Geschiedenis van het fenomenologisch denken,* p. 176.
104. KWANT, R. C.: *Wijsbegeerte van de ontmoeting,* p. 49.
105. VAN DER STOEP, F.: *Taalanalise en taalevaluering as pedagogies-didaktiese diagnostiseringsmetode,* op. cit., p. 91.
106. See: Ibid, p. 103.
107. Ibid, p. 105.
108. Ibid, p. 105.
109. See: Ibid, pp. 46-49.
110. See: GOUWS, S.J. L.: *Die affektiewe nood van die gestremde kind,* p. 31.
VAN DER STOEP, F.: *Taalevaluering as pedagogiese diagnostiseringsmetode,* op. cit., p. 196.
111. See: DUMONT, J. J.: *Leerstoornissen,* op. cit., p. 56.
112. STANDER, G.: in: Stander, G. and Sonnekus, M. C. H.: op. cit., p. 107.
113. DUMONT, J. J.: op. cit., p. 57.

114. See: VAN DER STOEP, F.: *Taalanalise en taalevaluering as pedagogies-didaktiese diagnostiseringsmetode,* op. cit., p. 109.
115. See: STANDER, G.: in: Stander, G. and Sonnekus, M. C. H.: op. cit., p. 102.
116. VAN DER STOEP, F.: op. cit., p. 110.
117. GOUWS, S. J. L.: op. cit., pp. 83-87.
118. STANDER, G.: in: Stander, G. and Sonnekus, M. C. H.: op. cit., p. 98.
119. MULLER as cited by: van den Broek, P.: *De schoolpsycholoog,* p. 124.
120. HALLGREN, B.: *Specific dyslexia (Congenital wordblindness),* pp. 2-3.
121. OMBREDANE, A. as cited by: Van Gelder, L.: *Ontsporing en correctie,* op. cit., p. 189.
122. VLIEGENTHART, W. E.: *Op gespannen voet,* op. cit., Chapter 4.
123. See: GOUWS, S. J. L.: *Pedagogiese diagnostisering van kinders met leermoeilikhede,* op. cit., p. 86.
124. STANDER, G. in: Stander, G. and Sonnekus, M. C. H.: op. cit., p. 98.
125. DUMONT, J. J.: op. cit., p. 73.
126. ßee: STANDER, G. *Inleiding tot die taalpsigologie,* op. cit., p. 53.
127. GOUWS, S. J. L.: *Pedagogiese diagnostisering van kinders met leermoeilikhede,* op. cit., p. 85.
128. See: STANDER, G.: op. cit., p. 99.
129. VAN DER WISSEL and BAKKER, as cited by Dumont, J. J.: op. cit. (1971), p. 73.
130. Ibid, p. 73.
131. See: JOHNSON, D. J. and MYKLEBUST, H. R.: op. cit., pp. 21 & 29.
132. See: STANDER, G.: op. cit., p. 53.
133. VAN DER STOEP, F.: *Taalevaluering as pedagogiese diagnostiseringsmetode,* in: *Opvoedkundige studies, special issue,* op. cit., p. 110.
134. Ibid, p. 110.
135. See: KOK, J. C.: *Leerprobleme en perseptueel-motoriese ordening,* p. 4.
JOHNSON, D. J. and MYKLEBUST, H. R.: op. cit., p. 16.
136. DUMONT, J. J.: op. cit. (1971), p. 54.
137. KOK, J. C.: op. cit., p. 1.
138. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., p. 70.
139. DUMONT, J. J.: op. cit. (1971), Chapter 3.
140. VAN NIEKERK, P. A.: *Ortopedagogiese diagnostiek,* op. cit., pp. 70-76.
141. DUMONT, J. J.: op. cit. (1976), pp. 34-61.