

**UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG**



School of Education

MEd (Coursework and Research Report) 2024

Research Report

**L.S. Vygotsky's Theory of the Development of Higher Mental Functions and
Defectology – A Challenge or Support for the Contemporary Notions of
“Inclusion” and “Inclusive Education” in South Africa?**

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Ethics Waiver Protocol Number: 2023ECE015

Declaration

I declare that this report is my own work. It is being submitted for the Master of Education (Coursework and Research Report) at the University of the Witwatersrand, Johannesburg, South Africa.

It has not been submitted before for any degree or examination at any other University.

I have acknowledged all quotes and paraphrased ideas within my work as well as having provided a complete alphabetized reference list.

Signed: 

Date: 13 March 2024

Acknowledgement

First and foremost, I want to convey my heartfelt gratitude to my supervisor, Rashad Bagus, for his ongoing assistance during this research endeavour. His patience and motivation helped me gain confidence in my academic writing. His considerable expertise and background in Vygotsky are outstanding and I could not have asked for a better supervisor. Finally, I want to thank my family and fiancé for their encouragement in completing this research report.

Abstract

Vygotsky's explanation of the cultural-historical development of higher mental functions is generally known but his ideas on "defectology" is less well-known and not usually discussed in the context of his overall theory. To address this shortcoming this research report provides a detailed exposition of Vygotsky's theory of the cultural-historical development of higher mental functions and then shows how his thinking about defectology extends on the general theory. Following this exposition, the report establishes the extent to which Vygotsky's ideas on defectology is consonant with, or a challenge to, the contemporary ideas of Inclusion and Inclusive education as it is understood and "implemented" in South African educational thinking and practice. Based on this analysis, the report argues that Vygotsky provided a nuanced, and "more inclusive" understanding of developmentally "normative" and "non-normative" children than that provided in the South African policy on Inclusion and Inclusive Education.

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Introduction

Vygotsky's theory of the cultural-historical development of higher mental functions is generally known and researched. However, his ideas on "defectology" are less well-known and usually not discussed in the context of his overall theory. To address this "shortcoming" this research report intends to provide a detailed exposition of Vygotsky's general theory which goes beyond the usual, relatively simplistic "socio-cultural theory" renditions of the theory and then show how his ideas on defectology extends on his general theory. Following this exposition, the research report intends further to establish the extent to which Vygotsky's ideas on defectology is consonant with the contemporary ideas of Inclusion and Inclusive Education as it is understood in South African educational thinking and practice. To this end the report will also address the reasons for the adoption of inclusion and the extent to which the policy focuses nearly exclusively on the social factors/environment, while minimising the child's individual development. In this regard the report will show that arguments in favour of Inclusion and Inclusive Education rely nearly exclusively on a "social model of explanation" which, from Vygotsky's perspective, would be considered reductionist. Instead, the report will show that Vygotsky provides a dialectical explanation which encompass both the individual and the social as well as the "normative and non-normative"¹ development of children.

The 'social reductionist' model of explanation mentioned above is evident in the South African policy on Inclusion and Inclusive education. In the policy, traditional notions of "disability", "learning disabilities", "learning defects" and "mental retardation", amongst others, were discarded as retrogressive and an inappropriate labelling of children who, for the policy makers, are in fact "differently abled" and who were therefore confronted mostly by "barriers to learning" in the educational system. Based on this re-conceptualisation, ideas such as the inclusion of all children in the mainstream educational system is accepted and a concerted attempt is made to move away from the "personalisation" and "individualisation" of "learning difficulties" in favour of a view that

¹ Throughout this report the terms "normative" and "non-normative" will be used as neutral labels to identify children with identifiably different developmental trajectories. However, the terms which were used historically to describe these different types of children will be retained where these appeared in the original texts. This retention should not be seen as an endorsement of such derogatory terms.

the problems/difficulties such children experience were more a consequence of the social conditions of the child's educational development rather than any "internal deficit". While this attempt to eliminate social stigmatisation and the "othering" of children who may have experienced non-normative development is commendable, it does not however deal with the very real issue that these children may ultimately be "epistemically excluded" by their physical inclusion in mainstream schooling. Furthermore, by contrast to a "homogenous" conception of Inclusion and Inclusive Education, Vygotsky's theory of defectology proposes a differentiated approach to Inclusion and Inclusive Education.

Research Question

The central problem that this intended research will address is, "To what extent does Vygotsky's defectology support the idea of "inclusion" and "inclusive education" as it is understood in the South African educational context?". To address this question, several related sub-questions will be addressed. These include the following:

1. What is defectology according to Vygotsky?
2. How are the ideas of defectology related to Vygotsky's overall theory of the cultural-historical development of higher mental functions?
3. How is "inclusion" and "inclusive education" understood in South African education and which theoretical frameworks are used to support these ideas?
4. Are there clear congruencies between Vygotsky's understanding of defectology and its educational ramifications and the South African conception and related practices of "inclusion" and "inclusive education"?

Research Method

This research report uses conceptual research as a research method. The nature of this orientation to research is captured very well by Dreher (2000) in the context of its use in psychoanalysis:

"... when I come to speak of 'conceptual research in psychoanalysis', I mean a—not exactly definable—class of research activities, the focus of which lies in the systematic clarification of psychoanalytic concepts. What is crucial here is that such research is both about the history of concepts, so as to trace a

concept's origin and development, and equally about the current use of a concept, its clarification, and its differentiation. In all that, conceptual research clearly is a constructive as well as a critical tool—one that may also prove useful in the assessment of other research activities.” (p.3-4)

What is evident from the foregoing description is the fact that while conceptual research does not consist of a clearly definable range of research activities, its central concern entails the analysis of the history of a concept/s to understand its genesis and development over time, as well as clarifying the way/s in such which these concept/s are currently understood. As such, conceptual research is both critical and constructive in nature. In view of these characteristics, this research method consequently does not rely on “research data” in the positivist sense – its “data” are the concept/s it chooses to investigate and the texts in which these concepts have been used and elaborated over time.

Based on the foregoing description the fundamental concepts of concern in this research report will be Vygotsky’s understanding of “defectology” and the contemporary idea of “inclusion” and its educational implication captured in the idea of “inclusive education”. However, “defectology” is an integral component of Vygotsky’s general explanation of the cultural-historical development of higher mental functions and must therefore be seen within that broader theoretical framework. Similarly, the ideas of “inclusion” and “inclusive education” as they are used internationally and in the South African context are part of a human rights framework and their origin and use over time should therefore be located within that framework.

In view of Vygotsky’s concern with the psychological development of children with defects and the human rights concern with the inclusion of all children in the social and educational domains, the issue that arises is whether Vygotsky’s understanding of defectology is congruent with the apparent “blanket” approach to inclusion especially as it is understood in the South African context? This question, as indicated in the previous section, will be the primary concern of this research report.

Structure of the report

This research report is divided into four chapters:

In chapter one I discuss Vygotsky's dialectical model of explanation and then provide a detailed exposition of Vygotsky's cultural-historical theory of the development of higher mental functions. In the second chapter I look at "defectology" as a discipline and practice in Russia (and the USSR) and this general discussion is followed by an exposition of Vygotsky's theory of defectology which is an extension of his general theory of development. The third chapter will be concerned with the ways in which Inclusion and Inclusive Education has been conceptualised and implemented in both the international and the South African context. Finally in the last chapter, I will examine the extent to which Vygotsky's thinking challenges the current understanding and "practice" of Inclusive Education in South Africa and then look at how his ideas may be used to re-think Inclusion and Inclusive Education in South Africa.

Limitations

Given its conceptual nature and reliance on previous research, the intended project is limited to theoretical clarification. As such, it intends to clarify how inclusion and inclusive education is understood in South Africa by using the dialectical approach proposed by Vygotsky, the clarification may help policy makers and teachers to re-conceptualise the idea of inclusion and the implementation of which, would consequently need to be investigated empirically to establish its veracity.

A note to the reader

This text uses footnotes liberally to provide additional, tangential information which I believe is interesting and informative but which would have detracted from the flow of the ideas discussed. Furthermore, the references at the end of the text comply with the APA, 7th Edition (2020) standard where the publisher location is no longer required as part of a reference.

Chapter 1

"Many Western attempts to interpret Vygotsky have been marked more by enthusiasm for Western pedagogical preoccupations than for the concern to understand the range and depth of his arguments" (Daniels, 2009, p. 24).

Given the objective of this research report to elucidate Vygotsky's understanding of what was called "Defectology", it is necessary first to provide a detailed account of his more general theory of the cultural-historical development of higher mental functions, and then to show how his thinking about "Defectology" was an extension of his more general theory. Consequently, in this chapter I will provide a detailed exposition of Vygotsky's theory of the cultural-historical development of higher mental functions.

A Caveat

Psychologists from both the Soviet Union and the West have used a variety of labels to refer to Vygotsky's theory. According to Dafermos (2016, p. 28), Vygotsky's theory is occasionally referred to as the "cultural-historical theory of the higher psychical functions," but it is most frequently called the "theory of the development of the higher psychical functions" or "cultural-historical theory of the psyche." Vygotsky's approach is also frequently referred to as "cultural-historical theory" but, it should be noted, this was a label that his detractors ascribed to him in the mid-1930's and it is under this incorrect label that his theory is currently and most commonly presented. The "cultural-historical theory" label has, in a significant body of Western research, been transformed further into, what is called "socio-cultural theory". This contracted and largely incorrect label misrepresents the true nature and import of Vygotsky's theorising by removing two important dimensions, viz., the historical dimension, and Vygotsky's specific focus on the development of what he called "higher mental functions". Furthermore, the "socio-cultural theory" label reduces Vygotsky's theory to what appears to be an exclusive "social-cultural" rather than a psychological explanation of the development of mental functions in the child. In view of the foregoing observations, this research report will adopt the label "the theory of the cultural-historical development of higher mental functions" which most closely reflect Vygotsky's own description of his theory (see Valsiner and van Der Veer, 1991).

Vygotsky's Dialectical Model of Explanation

In view of the Marxist influence on Vygotsky's thinking², he adopted a similar dialectical model of explanation for the development of higher mental functions. This dialectical model can clearly be seen in the following statement:

We believe that a child's development is a complex dialectical process characterised by periodicity, unevenness in the development of different functions, metamorphosis or qualitative transformations of one form into another, interweaving of external factors and adaptive processes which overcome impediments that the child encounters" (Vygotsky 1978, p.73).

What this shows is that for Vygotsky biological and cultural development are inextricably linked, occurring concurrently and dialectically (Bøttcher & Dammeyer, 2012).

According to Bidell (1988), "[t]he dialectical conception of development is complex- in fact, it affirms complexity as an essential aspect of processes. However, it goes beyond the simple assertion of complexity to provide a way to scientifically understand it" (p. 330). It therefore offers us "a scientific approach to *understanding psychological phenomena in their complexity and in their relationship to one another, rather than as isolated and competing phenomena*" (Bidell, 1988, p.330, emphasis added). Based on his analysis of Vygotsky's writings Dafermos (2015), argues that "Vygotsky's writings contain at least two different conceptualizations of dialectic" (p. 217). In the first, dialectic is viewed in a broad perspective as a science for uncovering the most general laws in nature, human society, and thinking. This conception, of dialectic, Dafermos believes, is very close to Engels's understanding of dialectics in his book *Dialectics of Nature* (Dafermos, 2015). In the second sense, dialectics enable us "... to comprehend the organism and its environment, in constant interaction, as a single, unified whole (Wallon quoted by quoted by Al

² It should be noted that the translators of Vygotsky's *Thought and Language* (1962), Eugenia Hanfmann and Gertrude Vakar, "... excised all but one reference to Marxist thought [in the translation], without a word of explanation on the matter" (Sève 2018, p. 1), and, in the process, removed and suppressed the Marx-inspired "dialectical methodology" of Vygotsky's theorising.

Najjar & El Hammoumi, 2017, p. 96) and, in terms of Vygotsky dialectical approach, offers us a method for studying a concrete object in the process of its development. It should be noted, however that Vygotsky's writings did not engage in a significant way with the first sense of dialectic but his psychological investigations and theorising was fundamentally predicated on the second sense of dialectic and it was this approach that he used to explain the cultural-historical development of higher mental functions (Alnajjar & El Hammoumi, 2017).

This dialectical approach is clearly evident in Vygotsky's writings on defectology where he shows that a "defect" in a child should be studied as a phenomenon that has emerged within specific *physical, social, and cultural-historical contexts*. An important idea in this approach is the concept of incongruence between a child's biological abilities and cultural expectations.

Unfortunately, despite its clearly dialectical nature Vygotsky's thinking is often interpreted as providing an exclusively "social model of explanation" of human development and a consequent, so-called, "social constructivist explanation of learning". While it is not incorrect to highlight the significance of the social dimension in Vygotsky's thinking, it is not correct to reduce it to an "exclusively social" theory and it also questionable whether he provided us with a "social theory of learning" rather than a theory of development in which the cultural-historical dimension is a prominent explanatory aspect. This reduction has unfortunately led to a tendency especially among researchers in the domain of inclusion to see Vygotsky's thinking as being concerned only with the "social inclusion" of children without paying due regard to the biological dimension.

Vygotsky's Theory of the Cultural-Historical Development of Higher Mental Functions

Vygotsky's theory is based on a basic distinction between the natural psychological functions such as attention, memory, motor control and perception (Miller in Yasnitsky, Van Der Veer & Ferrari, 2014) which are the product of biological development and, what Vygotsky called, higher psychological/mental functions. These latter functions emerge

through the transformation of the natural psychological functions via the mediation³ of psychological tools (i.e., signs and sign systems) provided by the material, socio-historical, and cultural conditions of society. This dialectical transformation produces functions such as voluntary attention, voluntary memory, voluntary motor control, and voluntary perception which Vygotsky called, specifically human, higher mental functions. It is important to note that these are the particular functions on which Vygotsky focused in his explanation of the development of higher mental functions and the failure to focus on these functions have been responsible for the gross misunderstanding (and misrepresentation) of one of the most commonly discussed Vygotskian concepts, viz., the Zone of Proximal Development (ZPD) (see Chaiklin, 2003), which will be discussed in greater detail below.

To elaborate on the nature of these psychological tools, Vygotsky (1929) draws a distinction between physical tools, which are “outwardly directed” towards the external world and psychological tools which are “inwardly directed” to master and regulate the natural psychological functions of human behaviour more generally. These psychological tools, which are the product of history and the material conditions of society, Vygotsky calls “signs” and sometimes, “psychological tools”, and they include speech and language and other symbolic systems such as number systems, grammar, and so on. He contends that through the internalisation of these psychological tools, the individual transforms her natural psychological functions into higher mental functions (Miller in Yasnitsky, Van Der Veer & Ferrari, 2014) and places these functions under his/her voluntary control. For Vygotsky, speech and language are the most significant psychological tools and consequently, these play a significant role in the child’s mental development.

According to Vygotsky (1987), “the communicative function is the initial function of speech” but also through speech, the child develops the ability to verbally regulate her behaviour and to handle complicated problems (Van der Veer, 2007, p. 63). Vygotsky further believed that while thinking and speech originate separately, they eventually

³ It is important to note that Vygotsky uses the notion of “mediation” in the context of the “sign-mediated” nature of higher mental functions and not, as is commonly supposed within education, some kind of “benign form of teaching”. As will be shown later in the discussion, Vygotsky very clearly used the notion of “instruction” in the school context.

control each other. As such, for Vygotsky, thinking and speech⁴ are intimately related. So rather than thought constituting language (the individualist cognitive model) or language constituting cognition (the social determinist model), for Vygotsky speech completes thinking (Burman, 2008, p.187). In Vygotsky's view:

The structure of speech is not simply a mirror image of the structure of thought. It cannot, therefore, be placed on thought like clothes off a rack. Speech does not merely serve as the expression of developed thought. Thought is restructured as it is transformed into speech. It is not expressed but completed in the word. Therefore, precisely because of the contrasting directions of movement, the development of the internal and external aspects of speech forms a new unity. (Vygotsky in Holzman 2006, p. 115)

Holzman (2006) sees the transformation of the model of the thought-language relationship as the radical potential of Vygotsky's approach:

Vygotsky's language completing thought ('thought completed in the word') presents an alternative to the dominant Western philosophical-linguistic psychological paradigm, which rests on the assumption that language expresses thought. Vygotsky is not reversing the order of their relationship; he is rejecting the bifurcated interactionist view of language and thought and therefore doing away with the necessity of 'reconnecting' them, that is, he rejects the overdetermined and over determining conception that language, denotes, names, represents and expresses. Language completing thought identifies language as socio-cultural relational activity (Holzman, 2006, p.115-116).

In his investigation of the development of speech and thinking Vygotsky showed that egocentric speech is not simply a childish form of expression that disappears as the child

⁴ My use of the expression "thinking and speech" is based on the current, generally acknowledged view that the earliest English translations of Vygotsky's book as "Thought and Language" (see the 1962 and the 1986 translations of the book) is incorrect and misrepresents what Vygotsky intended in the book. This mistranslation was corrected in volume 1 of *The Collected Works of L.S. Vygotsky* (1987) where it now reads as "Thinking and Speech". The impact of the consequences of this mistranslation for the understanding of Vygotsky's thinking in the research literature since 1962 has not yet been determined and even in the texts used here the interchangeable use of "language" and speech is sometimes evident.

matures but is a transitional form of speech that holds the key to the human ability to achieve mastery over their own mental functions and, consequently, to be able to plan for future activities. Thus, when speech moves to the beginning of an action, a change occurs in the child's activity. But when the child's speech becomes detached from, and precedes her actions, its function changes from reflection to planning and it "begins to dominate action and direct and determines its subject and its course" (Vygotsky, 1999, p.24) Following this general analysis of the development of thinking and speech, Vygotsky then looked more specifically at the development of concepts in the child. In this regard he found that both the development of language as well as the development of concepts goes through a series of distinct stages. I will discuss each of these in turn.

For Vygotsky, the development of speech goes through three stages: egocentric, inner, and exterior speech, and during the development of these stages, the first becomes the second, and finally the third (Jones, 2008). External speech changes from a

directly interpersonal, communicative means of regulating and directing the child's behaviour into 'inner speech', the medium of the child's personal consciousness and will and of his or her capacity for purposeful and independent action (Jones, 2008, p.167).

Then, the egocentric speech serves as a conduit between early (external) socially communicative speech and leads to the development of inner speech. Vygotsky believed that speech plays a crucial role in the development of unique human thinking and behaviour in children. The process of 'internalization' transforms 'external' or 'social' speech into 'inner speech', which reflects the child's personal consciousness, will, and ability to act independently. The process of internalization involves 'egocentric speech', often known as 'private speech' (Wertsch, 1979). Finally, there is the development of external speech which is voiced and intellectually directed to others.

Just as speech develops over time, Vygotsky showed that concepts also develop over time in the child. He argued that,

. . . the process of concept formation is more than the sum of certain associative bonds formed by memory, more than a mere mental habit; it is a complex and genuine act of thought that cannot be taught by drilling but can

be accomplished only when the child's mental development itself has reached the requisite level (Vygotsky, 1986, p.149).

Vygotsky argued further that word meanings evolve. When a new word has been learnt by the child, its development is barely starting; the word at first is a generalisation of the most primitive type; as the child's intellect develops, it is replaced by generalisations of a higher and higher type - a process that leads in the end to the formation of true concepts. The development of concepts or word meanings presupposes, according to Vygotsky, the development of many intellectual functions such as deliberate attention, logical memory, abstraction, and the ability to compare and differentiate. These complex psychological processes cannot be mastered through initial learning alone but is part of the child's development of higher mental functions (Vygotsky, 1986).

In his analysis of the development of concepts Vygotsky extended on Piaget's focus on the concepts the child develops spontaneously in her everyday life and argued that it was necessary (a) to focus on systematic/scientific (or non-spontaneous) concepts the child is exposed to at school; (b) to understand how instruction in scientific concepts relies on the existence of spontaneous concepts; and (c) to show how the systematic concepts builds on the spontaneous concepts to become part of a system of concepts. For Vygotsky (1986) the relation of the child's experience to scientific/systematic concepts differs greatly from its relation to spontaneous concepts. The mind faces different problems when assimilating concepts at school and when left to its own devices. Thus, since these concepts differ in relation to experience and in the child's attitude toward their object, they may be expected to follow differing developmental paths from inception to final form (Vygotsky, 1986). However, Vygotsky argues further, *the development of spontaneous and non-spontaneous concepts is related and constantly influence each other*⁵, they are ultimately part of a single process.

Vygotsky (1986) distinguished between spontaneous and non-spontaneous concepts in numerous ways. The most significant distinction between them is that the former

⁵It should be noted that often in educational research and practice, these concepts are treated as virtually unrelated and consequently, the nature of the concepts taught at school are seen as "breaking with everyday life/experience" (see for e.g., Floden, Buchman, and Schwille, 1987) which is not what Vygotsky believed.

originate outside a system, but the latter develops only within a system, where they gain consciousness and deliberateness. Scientific concepts emerge throughout the process of gaining a system of concepts that the child gets during teaching, whereas spontaneous concepts emerge during a child's practical activity through direct connection with other people in everyday life. The final contrast established by Vygotsky is the different pathways that the two types of concepts take in their development, that is, "...the development of the child's spontaneous concepts proceeds upward, and the development of his scientific concepts proceeds downward..." (Vygotsky, 1986, p. 193).

An important question for Vygotsky is what happens in the mind of the child when s/he is taught scientific/systematised concepts at school? How do the scientific concepts relate to the spontaneous concepts the child constructed in her everyday life? Does the child simply assimilate the systematic concepts as presented or do such concepts also develop and display an internal developmental history? For Vygotsky, these concepts are interrelated because the child cannot understand a systematic concept unless she has the requisite spontaneous concept. Thus, he states,

In receiving instruction in a system of knowledge, the child learns of things which are not before his eyes, things that far exceed the limits of his actual or potential immediate experience. To this extent, *the learning of scientific concepts depends on the concepts developed through the child's own experience in the same way that the study of a foreign language depends on the semantics of his native speech. Just as the learning of a foreign language presupposes a developed system of word meaning, the learning of a system of scientific concepts presupposes the widely developed conceptual fabric that has emerged on the basis of the spontaneous activity of the child's thought.* (Vygotsky, 1987, p. 180, emphasis added)

Besides the clear interrelationship between spontaneous and scientific concepts shown in the lengthy quotation above, Vygotsky also identifies the significance of instruction⁶ in

⁶ In the very popular book *Mind in Society* (1978) attributed to Vygotsky (see Yasnitsky and Van Der Veer, 1995), there is a serious mistranslation of the Russian word "obuchenie", i.e., instruction, to mean "learning". Thus, we find a chapter entitled "Learning and Development" which should have been

systematic/scientific concepts for the child's development (see Daniels, 2009). This role of instruction in development will be addressed in greater detail later in this discussion.

In addition to the stages of the development of language and the development of concepts in the child presented above, Vygotsky, also provided an (incomplete) account of the general periods of the development of the child. In the next part of the discussion, I look at this seldom discussed dimension of Vygotsky's theoretical thinking.

Vygotsky's Periodisation of the Child's Development

For Vygotsky, the fundamental focus of a theory of child development is the development of the whole person (personality development), with each age involving a qualitative change in the general structure of consciousness. Personality is expressed and developed through the development of various psychological functions. Consciousness is thus seen as an inherent expression of the structure of personality (which is dependent on the psychological processes) through which a person interacts with others. Participating in meaningful practices in this context fosters the development of psychological functions. Thus, according to Vygotsky,

. . . development occurs as a consequence of the child's efforts to act in relation to the demands of societal practices in the social situation of development for a given age, and drawing on the forms of action that are present (Chaiklin, 2003, p. 12)

Vygotsky described child development as a succession of stable developmental stages, including infancy, early childhood, preschool age, school age, and puberty. These periods of stable growth are disrupted by crises: at birth, at the ages of one, three, seven, thirteen, and seventeen. This periodisation is determined primarily by the occurrence of specific structural transformations in the child's relationship to their social environment, and thus in their mental life. Vygotsky maintained that under different social conditions, these transitions will still occur, albeit "differently" and at different ages. Vygotsky thus

translated as "Instruction and Development". This mistranslation has had a significant impact on how Vygotsky's thinking has been (mis)understood especially within the domain of education and educational research (see Barrs, 2017).

conceptualised child development in terms of age periods, but, unlike Piaget, he argued that each age period reflects a societally structured environment for action and is characterized by the formation of certain dominant psychological capabilities (referred to as a neoformation in Vygotsky's writings), which collectively can be understood as the development of consciousness. Furthermore, the development of particular “central psychological capabilities” characteristic of each stage is a pre-requisite for the child’s development from one age period to the next. (Chaiklin, 2003).

In this periodisation of child development Vygotsky identified various dimensions that needs to be considered. I will discuss each of these in turn.

The Social Situation of Development

Vygotsky conceives of the social environment in which the child finds itself and the relationship of the child to other people, not just as a collection of factors, as influence or resource or context or community, but concretely as a *predicament* and therefore “the social situation of development provides a structural relation between cultural development of psychological functions and the central neoformation” (Chaiklin, 2003, p.8).

The Central Neoformation.

A neoformation is a psychological (e.g., conceptual reasoning) or physical (e.g., walking) skill that has not yet developed in a person. The emergence of a central neoformation at a certain age influences the emergence of additional psychological neoformations at that age, as well as the alteration of the role of existing forms. In other words, development is not a random accumulation of various psychological abilities, but rather an interaction between a child's abilities and the demands of the social situation, where action in this social environment will support development of the central neoformation required for the next age period (Chaiklin, 2003, p. 8).

In other words, the way the child engages with the social environment using a particular mode of mental activity is known as a neo-formation, a psychological function. This mode arises at specific phases of development and distinguishes itself from other functions that facilitate social interaction. At each stage, a child is distinguished by a social engagement

with a distinct dilemma. The central neo-formation gradually differentiates between stages, reorganizing the child's behaviour and eventually rendering the social context of growth obsolete by overcoming previous limits, establishing new modes, and creating new predicaments. (Blunden, 2011, p.4)

Lines of Development

The child must progress through a sequence of age stages as it grows from a helpless newborn to a mature and responsible adult, each of which represents a valid form of social practice. At each stage of development, the infant can only use the neo-formations that has been formed. Each chapter of this story involves the shift of the child's mental life and method of interaction from one, entire viable form of life, to another.

Thus, at each age level, a central line of development distinguishes itself from the psychic structure and brings about a new constellation of psychological functions, transforms the relationship between functions, stimulates the development of others while suppressing others, transforming cause into effect and effect into cause. The necessities of the central neo-formation drive the central line of development at each age level. However, peripheral lines of development continue, sometimes in support of major lines of growth, sometimes continuing work begun in previous age levels, refining and strengthening functions that are no longer driving forces of development. The central line of development is how the child overcomes the predicament contained in the social situation of development and leads into new predicaments and how the central neo-formation restructures the mental life of the child and their relationship to the social environment (Blunden, 2011, p.5).

Age Levels

The concept of age is essential to L. S. Vygotsky's theoretical framework for analysing child development. Chaiklin (2003) explains the significance of the concept of age in the context of human development from a cultural-historical standpoint. Understanding a cultural-historical concept of age requires confronting three conceptual challenges: (a) the concept's role or function within a theoretical conception of children's development, (b) the "psychological content" (or structure) of an age ("how an age period is defined"),

and (c) how to evaluate children's development in relation to the content of an age ("why it is useful").

In Vygotsky's periodisation of development "the expression age (or age period) is understood as referring to a time period in a person's life history that has particular psychological characteristics" (Chaiklin, 2003, p. 6). Similarly, age periods are understood as psychological periods that are historically and materially constructed - historically because the psychological functions that define a period are constructed through the history of human practices, and materially because the functions develop because of tasks and interactions with others. In this sense, age is utilized as an objective, historical materialist construct (Chaiklin, 2003).

Each age period has a distinct central neo-formation from which psychological functions emerge (Vygotsky, 1998b in Original 1934). This neo-formation is organized in the social situation of development by a fundamental contradiction between the child's current capabilities (as evidenced in the child's actually developed psychological functions), the child's needs and aspirations, and the environment's demands and possibilities. To resolve this conflict (and hence fulfil its activity), the child engages in a variety of concrete tasks and interactions, which might result in the production of new functions or the enrichment of existing functions. The central neo-formation created for a certain age period is thus the result of the child's interactions in the social setting of development with relevant psychological functions that are not fully developed (Chaiklin, 2003).

Age levels are distinguished by the distinctive mode of interaction that emerges from the social setting because of the central neo-formation that emerges and matures in the given age period along the central line of development for that age period. Because each stage of development involves biological changes in the organism as well as institutional expectations based on historical experiences, the age levels do involve regular years of age, but are defined not by age but by the central neo-formation of development at that age level (Blunden, 2011). Cultural development (i.e., psychological function development) for a specific age period is arranged around a central psychological neo-formation that occurs around the end of an age period (Chaiklin, 2003). Age periods can thus be seen as a further refinement and differentiation of the overall concept of cultural development and personality development (Chaiklin, 2003, p. 10).

Stable age levels are periods in which the development of a central neo-formation takes on a central function, and through it becomes a mature and continuing part of the child's psyche. According to Vygotsky, during periods of stable development, changes in single neo-formations drive overall development, whereas during critical periods, changes in the overall structure of the psyche determine changes in individual neo-formations and their relationships. During stable periods, the child's personality undergoes gradual change along the central line of development as the central neo-formation gradually matures and restructures the entire personality, but as it matures, it gradually comes into conflict with the situation and is unable to find resolution (Blunden, 2011).

Stable and critical periods are viewed as the result of the dialectical transformation of personality, which is a result of activity in the social environment, which is oriented by consciousness, and which in turn serves to develop consciousness through personality development. The central neoformation and the altered relationships to other forms result in a shift in the general organization of consciousness (Vygotsky in Chaiklin, 2003).

Self-Regulation and Crisis Periods

From birth to the puberty crisis, the child's relationship to self, the grades of consciousness, and self-determination develops. Vygotsky defines key moments of development as shifts in the development of the will or capacity for self-determination. The infant begins physically, biologically, psychologically, and socially undifferentiated from their mother, and their psychological functions are likewise undifferentiated. Only by completely differentiating the many psychological processes would the young person be able to obtain control of their own behaviour and participation in society, as well as to distinguish themselves as an individual from those around them. (Blunden, 2011).

Vygotsky's conception of the child's development is significantly different to the more commonly known Piagetian stages of development due to its focus on conflict and the role of the social world at various points in the child's development. Unfortunately, Vygotsky did not develop this aspect of his theory beyond the sketchy information provided above and one can only speculate as to how he would have fleshed out his account of the stages of the child's mental development.

For the purposes of the completion of the discussion of Vygotsky's theory of the cultural-historical development of higher mental functions it is now important to turn to a relatively minor idea in Vygotsky's theory (see Gredler, 2012), viz., the Zone of Proximal Development, or more correctly, The Zone of Next Development (see Smagorinsky, 2019), which has unfortunately been over-exaggerated by many researchers and commentators and also been misrepresented, especially within the educational domain.

The Zone of Proximal Development (ZPD)

The idea known as the 'Zone of Proximal Development' (ZPD) is arguably Vygotsky's most well-known theoretical concept, particularly among psychologists and educators. However, the ZPD, like most of Vygotsky's work, has been misunderstood and mistranslated (see Smagorinsky, 2018; Yasnitsky and Van der Veer, 2015; Miller, 2011; Barrs, 2017). According to Smagorinsky (2018) people who refer to the ZPD have frequently just read selectively from Vygotsky's "greatest hits" collection *Mind in Society*, where it is referred to in a very limited way as "today's supported learning yielding tomorrow's independent performance". This popular account is very appealing to teachers who are more concerned with short-term learning rather *than long-term human development*. Smagorinsky (2018) shows how an alternate translation of ZPD places it more clearly within the purview of Vygotsky's *developmental* emphasis. The Zone of Proximal Development necessitates thinking in terms of *long-term developmental processes*, such as those depicted in the documentary film *The Butterflies of Zagorsk* (1990/1992), where the goal is not to teach children something they can do independently within 24 hours, but to engage in a long-term process of developing communication practices that serve not only to develop a competence such as hand-based-writing-and-reading, but for those processes to mediate development toward sociability.

Unfortunately, despite its clear identification as a "developmental" construct denoting a developmental process, it has been transformed into a "Zone of Proximal Learning" (ZPL)⁷

⁷ Following this misconstrual of the ZPD as a ZPL, another idea, viz., "scaffolding" (which is incorrectly attributed to Vygotsky) is often added to the popular ZPL conception because it supposedly addresses the immediate consequences of education which teachers are expected to demonstrate (Smagorinsky, 2018).

(Chaiklin, 2003). Part of the reason for this misconstrual can be attributed to the fact that Vygotsky provided two accounts of the ZPD (see Daniels, 2009). The first, and most used account, is about the relationship between an individual and another supportive individual in an educational context. The other, less well known, and seldom referred to account is about the role of instruction in development. In this account the ZPD indicates, for Vygotsky, a specific link between *instruction and development* (and not instruction and learning!).

To illustrate the foregoing contention Vygotsky states:

... instruction and development do not coincide. They are two different processes with very complex interrelationships. *Instruction is only useful when it moves ahead of development. When it does, it impels or awakens a whole series of functions that are in a stage of maturation lying in the zone of proximal development.* This is the major role of instruction in development. This is what distinguishes the instruction of the child from the training of animals. This is also what distinguishes instruction of the child which is directed toward his full development from instruction in specialized, technical skills such as typing or riding a bicycle. The formal aspect of each school subject is that in which the influence of instruction on development is realized. *Instruction would be completely unnecessary if it merely utilized what had already matured in the developmental process, if it were not itself a source of development* (Vygotsky, 1987, p. 212, emphasis added)

Given this focus on “maturing functions” in the above quotation, Vygotsky thus states that,

... The zone of proximal development refers to functions that have not yet matured, but are in the process of maturing, functions that mature tomorrow, that now are still in their embryonic form; functions that cannot be called the fruits of development, but the buds of development, the flowers of development, i.e. that which is only just maturing. The level of actual development characterizes the successes of development, the results of yesterday’s development, but the zone of proximal development

characterizes tomorrow's mental development. (Vygotsky quoted by Van Der Veer, 2007, pp. 81-82)

In the above more elaborated form, Vygotsky conceptualises the zone of proximal development as the difference between the actual development of maturing functions and the age's core neoformation (Chaiklin, 2003). In this view, the meaning of the zone of proximal development is intimately related to the concept of age, and pedagogical interventions should be aimed at assisting the maturing central neoformation.

Furthermore, according to Chaiklin (2003), in the analysis of psychological development (i.e., the transition from one age period to another), the zone of proximal development is utilized for two separate objectives. One objective is to determine the kind of *maturing psychological functions* (as well as the social interactions that go with them) that are required for the transition from one age period to the next. The other objective is to determine the child's current state in terms of developing the functions required for the transition (Chaiklin, 2003)

This tripartite constellation of 'current age, 'maturing functions,' and 'future age' make up the objective zone of proximal development. This zone is 'objective' in the sense that it does not refer to any specific child, but rather reflects the psychological functions that must be established during a specific age period for the next age period to be formed. (Chaiklin, 2003). The 'objective' zone is not determined *a priori*, but rather represents the structural relationships that are historically formed and objectively constituted during the child's historical time. The zone for a given age period can be said to be normative in the sense that it represents the institutionalized norms and expectations that emerged historically in a specific sociocultural tradition of practice.

It is feasible to (try to) examine the current status of an individual child's development (in respect of the objective zone) for a specific objective zone of proximal development. According to Vygotsky's theory, maturing functions are the source of changes in the internal structure of a specific age period. Assessment procedures should therefore be designed to determine the current state of these maturing functions. Because these functions are insufficient for independent performance, they must be identified using

dynamic, interactive techniques that provide indicators for measuring the level of their growth (Chaiklin, 2003)

Furthermore, for Vygotsky, a full understanding of this concept of ZPD must also take the notion of "imitation" into account because, for him, imitation is crucial to help us grasp the developing mental functions in the child. He defines imitation as anything other than mindless mechanical copying that a child does in partnership with an adult or another child rather than on his own. Children, according to Vygotsky, cannot copy what is beyond their intellectual capacity. However, during the imitation process, they frequently exhibit characteristics that are *slightly ahead* of their current stage of development. Imitation could thus be viewed as "a diagnostic tool" for determining the developing functions in children. Similarly, when children work together, they can accomplish more than if they worked alone. However, collaborative work and instruction, according to Vygotsky (1987), are still bound by the child's developmental stage and intellectual potential, that is, "there will always be a definite, strictly lawful distance that determines the differential distance between the child's performance in independent and collaborative work" (Vygotsky, 1987, p.209). In an interaction scenario (collaboration), the child can only copy what his/her maturing functions allow. If the child is unable to imitate, this would be interpreted as a sign that the relevant maturing functions were lacking (Chaiklin, 2003).

In summary, the main features of the zone of proximal development are: (a) the whole child, (b) internal structure (i.e., relationships between psychological functions), (c) development as a qualitative change in the structural relationships, (d) caused by the child's actions in the social situation of development (reflecting what the child perceives and is interested in), and (e) each age period has a leading activity/contradiction that organizes the development. Finally, the zone of proximal development refers to both the ontogenetically developing functions for a certain age period, as well as a child's current level of development in respect of the functions that ideally need to be developed.

Conclusion

Based on his dialectical methodology Vygotsky provided us with a cultural-historical theory of higher mental functions. In the theory he pays close attention to the role of signs in the mediation of higher mental functions. Given the significance of signs in the

development of these functions he carefully examined the development of speech and its relationship to the development of thinking. In the process, he provided a relatively detailed account of the development of thinking and speech in the child and concomitantly, the development of concepts in the child. Following his distinction between spontaneous and scientific/systematic concepts he then looked at the role of instruction in the child's development. Finally, to "complete" his account of the child's development he provided an account of the stages of the child's development which is very different to the one provided by Piaget. In keeping with his dialectical methodology, Vygotsky saw development as a continual process of self-movement or self-propulsion that results in the creation of new features and attributes that did not exist in previous stages. Quite importantly, Vygotsky (1987) introduced the concept of the zone of proximal development (ZPD) *as part of his description of the child's development of her maturing mental functions* and not as a stand-alone concept, and emphasised the significance of imitation as a means for establishing which functions are currently in the process of maturing in the child (Chaiklin, 2003).

The foregoing exposition of Vygotsky's general theory of the child's development provides the basis for understanding his theoretical understanding of what was called "defectology" at the time. The next chapter will consequently be devoted to an account of defectology.

Chapter 2

Vygotsky's "turn" to defectology was not "an epistemological break" (Giest 2018)⁸, in his thinking, but was a further development of his psychological theory described in the previous chapter. To show how defectology was a further development of Vygotsky's more general cultural-historical theory of the development of higher mental functions⁹ this chapter will be devoted to (a) a discussion of "defectology" as a discipline and a practice in Russia (and the USSR), and provide (b) an exposition of Vygotsky's thinking about defectology.

Defectology in the USSR

In Russian "Defektologia"¹⁰ was a term used to describe extra-normative traits of the human constitution which include sensory difficulties with hearing or speaking, motor impairments and cognitive functioning below the normal range. These traits have traditionally been the focus of the fields of abnormal psychology, learning disabilities, and special education. This defectologia tradition emerged for a variety of historical and cultural reasons (see McCagg, 1989) and it remains the fundamental method for treating individuals with disabilities (Grigorenko, 1998, p. 193).

During the early years following the Russian Revolution, the few existing charitable institutions for children with extra-normative traits were incorporated into the official educational system as "special schools for defective children." Initially, resources were so restricted that only deaf, blind, and mentally retarded children could be accommodated. (Grigorenko, 1998, p. 193-194). Gradually, the special education system expanded to

⁸ It is interesting to note that Vygotsky often signed his letters and other communication as "L.S.Vygotsky, Defectologist" (Yasnitsky, 2012) which clearly shows what he believed to be his major intellectual endeavour.

⁹ Since defectology was the primary empirical domain from which Vygotsky obtained data for his theoretical concepts, a large portion of Vygotsky's scientific legacy can be found in this field (Gindis, 1995).

¹⁰ The term defectology has no direct relation to the Western educational system, it broadly includes the term "special education" and serves a population that is similar to that of special education in Western nations (Gindis, 1995).

include students not only with physical disabilities, but also with severe learning disabilities that prevented them from meeting the requirements of ordinary schools. A new profession, "defectology," was created to provide a theoretical and practical foundation for the operation of special schools, and specialists in abnormal development and special education became known as "defectologists." (Grigorenko, 1998, p. 193-194).

In the Soviet Union, a clear distinction was made between children believed to be delayed in their development and those deemed to have mental handicaps caused primarily by organic factors (Daniels & Lunt, 1993). The Soviet theories of disability were based on the premise that, aside from their disabling state, there was a unifying factor that linked distinct types of disabled persons together (Grigorenko, 1998, p. 193). Their "defect" (synonymous with "handicap" in Russian) served as a unifying factor. Because of the broad psychological meaning of "defect" in medicine and education, and the accompanying overlap in disability, a holistic approach to treating such people became entrenched.

While working in special education after the Russian Revolution, Vygotsky grew increasingly interested in the study of impaired children. During this time, this "revolutionary defectologist" founded schools and clinics for the handicapped with the purpose of "teaching institutes to study the handicapped" (Knox & Stevens, 1993, p. 1). In this process, Vygotsky was instrumental in developing Defectology as a discipline in the USSR and the Soviet system of special education was founded on a clearly stated and unambiguous theoretical framework that was heavily influenced by Vygotsky's work. His theories served as the foundation for a strategy that develops instructional methods and textbooks in accordance with his thoughts on the role of instruction in development (Daniels & Lunt, 1993).

Vygotsky's Defectology

Vygotsky's studies first published in English in 1993 as "The Fundamentals of Defectology," provided a systematic framework for psychology and special education. In these studies, the theoretical basis of defectology is explained and this is followed by analyses of "disability", the development of "compensatory functions", and "special education". I will discuss each of these in turn.

Theoretical Framework of Defectology

The primary objective of research in the field of defectology, according to Vygotsky (in Bottcher & Dammeyer, 2012), is to examine *the unique developmental routes taken by children with various defects*. As was noted in the previous chapter, a child is born with natural, biologically based, elementary mental functions like perception, attention, and memory (Bottcher & Dammeyer, 2012) which are transformed by signs into higher mental functions. In keeping with his general theory of development Vygotsky's approach to explain the development of children with biological defects, similarly, proceeds from the distinction between two lines of development and the related natural and higher mental functions.

According to Vygotsky (1993), under normal circumstances the natural and cultural-historical line of development support each other. However, the "fusion" of the natural and cultural-historical line of development does not take place in the case of children with biological defects. Such defects create certain difficulties for mental development and completely different ones for the cultural-historical development of the child. Therefore, the two lines of development will diverge substantially from one another. The degree and character of the divergence will be determined and measured in each case by the different qualitative and quantitative effects of the defect on each of the two lines of development (Vygotsky, 1993). Thus, for Vygotsky the often-problematic development of children with mental disabilities is *the result of the incongruence between the biological development of the child, and the structure of the cultural-historical forms of the social world in which the child is living* (Vygotsky, 1993). In other words, the cultural-historical forms of the social world (which include institutions) do not support and accommodate the development of children with atypical psychophysical and mental development and constitutions in the same way.

The inconsistency between a child's biological and cultural trajectories of development has an impact on the child's psychological growth. The child's ability to acquire psychological tools, develop higher mental functions, engage in social activities, and learn pertinent social skills, is affected by his/her fundamental sensory, organic, or neurological defects. As a result, *secondary faults* frequently occur based on the original biological

problems and these secondary faults affects the child's whole development (Vygotsky, 1993).

What is important to note from the preceding discussion is that Vygotsky's defectological thinking is fundamentally dialectical and this means that to understand the psychological development of the child with biological defects it is essential to consider *the dialectical relationship between the biological and the social*. From this dialectical perspective the most significant difference between children with and without impairments is the former group's capacity/incapacity to acquire the requisite cultural-historical forms (including psychological tools) of the social world, as compared to children without any impairments.

Based on his dialectical conception, Vygotsky (according to Kotik-Friedgut and Friedgut, 2008) thus chose to emphasise "difference" over "deficit" on purpose. Vygotsky never labelled these children as 'defective' or 'handicapped' (in some instances the Russian word was translated as "backward") but referred to them as 'anomalous', stressing that, properly treated, they may acquire cognitive levels equivalent to their contemporaries. He further observed that social attitudes towards "anomalous children" often led to the development of *a secondary disability* in such children brought on by feelings of inferiority, which, in his opinion, are the most harmful effects of physical or mental difference (Smagorinsky, 2012). Quite importantly, he believed that a so-called defect necessitates the development of *compensatory faculties*. Thus, for example, in his examination of blindness he argued that it "is not only a defect, a minus, a weakness, but in some way is also the source of manifestations of abilities, a plus, a strength" (Vygotsky, 1993, p.97). It is therefore essential that a child with "anomalous development" should not be seen as being "deficient" but that s/he be provided with the means and opportunities to develop compensatory faculties to deal with the social world.

On Disability

Vygotsky's perspective on disability, as well as his theoretical and methodological principles for special education, which will be discussed later, have received little attention in the worldwide research literature. Seen in general terms, he argued that disability is an incongruence between a person's psychological make-up and the make-up

of historical-cultural forms. Thus, he conceptualised this incongruence in terms of a dialectical relationship between the disabled person and the surrounding society (Bottcher & Dammeyer, 2012) and characterised the disability as “social aberration” (Vygotsky, 1993, p.66).

However, while emphasising the significance of the social, it was never without due regard for the biological. Reiterating an assertion that he made in the context of his general theory that

cultural development does not create anything over and above that which potentially exists in the natural development in the child’s behaviour. *Culture, generally speaking, does not produce anything new apart from that which is given by nature.* But it transforms nature to suit the ends of man (Vygotsky, 1929, p. 413, emphasis added)

he states in the context of disability that

[c]ultural development is the main area for compensation of deficiency *when further organic development is impossible*; in this respect, the path of cultural development is unlimited (Smagorinsky, 2012, p. 169, emphasis added).

On a specifically psychological level Vygotsky contends that a child whose development is hindered by a disability is not only less developed than his peers, but that s/he also *developed differently* (Vygotsky in Bottcher & Dammeyer, 2012). Thus, the psychological analysis of differently developed higher mental functions should be carried out by the use of the genetic method to establish their origins. In this process, the contradictions underlying their development have to be analysed and the development of new structures and functions has to be examined. Such an analysis would further help us to understand how a biological “defect” affects the child’s capacity to internalise and use the psychological tools created in the course of the cultural-historical development of society.

Based on his own research in this domain he argued that due to the absence or minimal presence of a crucial cognitive, motor, or sensory method for interacting with the world,

a child of difference may be regarded as “defective” in comparison to a fully functional adult. However, he argued, in producing difficulties, a “defect” stimulates compensatory processes (Smagorinsky, 2012). Thus, for example, in his examination of blindness - illustrated with the example of his older contemporary Helen Keller - he argued that it “is not only a defect, a minus, a weakness, but in some way is also the source of manifestations of abilities, a plus, a strength” (Vygotsky, 1993, p.97). As such, the “defect” becomes merely a challenge that must be overcome in some other way which, at an educational level, calls for *an extranormal means of instruction* that could conceivably lead to enhanced engagement with the world (see for e.g., *The Butterflies of Zagorsk*, 1990/1992).

On Compensation

Vygotsky’s (1993) concept of compensation has been presented in the texts that comprise the book *Fundamentals of Defectology* (Vygotsky 1993) where he argues that

a physical handicap in a human being can never affect the personality directly because the eye and ear of human being are not only physical organs but also social organs, because between the world and human being stands his social environment, which refracts and guides everything proceeding from man to the world and from the world to man (Vygotsky, 1993, p. 77).

As such, “. . . the collective [is] a factor in the development of a normal and an abnormal child” (Vygotsky, 1993, p. 129) and consequently, it is in the collective, i.e., the social world, where compensation for disabilities or learning deficiencies must be sought because “it is precisely in order for handicapped children to achieve the same things as normal children that *we must employ utterly different means*” (Vygotsky, 1993, p. 48, emphasis added).

To accomplish this end, Vygotsky argues for *a unique educational system that would allow merging special pedagogy with general pedagogy*.

On Special Education

Vygotsky's concept of special education is little recognized outside of Russia since he died too young to publish his research in this domain. He created a comprehensive framework for special education and psychology based on current practices at the time. His contributions to the field of special education were crucial in building a methodology for special education practice.

According to Dainez (1993) Vygotsky “does not mention or makes use of the term compensatory education. He talks about *compensation as a method of educative work*” (p. 76. Emphasis added). In this sense, education is not viewed as an aid, supplement, or “deficiency supply” that implies thinking about a lack of something, but rather as an activity (and process) that allows for the creation of new opportunities for the individual's active participation in social practices. This strong focus on social practices is based on the fact that children with primary problems (such as vision and hearing, language and speech-related, motor and CNS-related impairments) have a distorted link to culture as a source for the development of higher mental functions (Vygotsky 1993; Rodina 2005) and are consequently “excluded” from the social and educational milieu, which results in the development of secondary disabilities.

Thus, for Vygotsky the basic goals of special education were to deal with the primary deficits of individuals *by encouraging and strengthening intact psychological function, as well as to repair and rehabilitate secondary deficiencies through psychological and pedagogical means* (Rieber & Carton, 1993, p. 32). To accomplish this end special educational practice would consequently involve the building of *developmental detours* for atypical children (Rodina, 2005) which can only be realized through a process of developmental, inclusive education that makes full use of the individual's sensitive stages in accordance with the social situation of development and their maturing functions.

What is evident from Vygotsky's approach to special education is its strong emphasis on development and the role of instruction in development as discussed in Chapter 1. It is also clear that is in the context of the development of extra-normative children and the provision of special education that the idea of the zone of proximal development, *as a developmental and not a learning construct*, becomes particularly significant.

Unfortunately, the true import of the developmental meaning of the ZPD is lost on some researchers in the field of special education (e.g., Wang, 2009) and their recommendations of a special education purportedly based on Vygotsky's ideas, is therefore questionable.

The Further Development of Defectology

Today, it is necessary to review some approaches to understanding defectological science and practice in the world and national defectology based on the works of Vygotsky (and his students), supplement them with new realities of modern society, and return to defectology on a scientific basis for special, integrated, and inclusive education (Malleav et al, 2020). Scientific theories regarding modern defectology are still important to scientists and practitioners working with non-normative children and demand a new rebirth and comprehension, in the current context, of working with children with extra-normative development (Amirova, 2020 in Malleav et al, 2020). However, to advance defectology it will be necessary to modify some of its more archaic descriptions and labels of developmentally extra-normative children, and to develop further the Vygotskian idea of the "lack of fusion" between the natural and cultural-historical lines of development in these children. In addition, the fundamentally dialectical nature of Vygotsky's explanation of defectology needs to be taken more seriously and the tendency simply to reduce his explanation to an exclusively "social model of explanation" needs to be challenged. Equally importantly, Vygotsky's fundamentally developmental approach to the education of extra-normative children must be recognised and developed further.

Conclusion

This chapter provided an account of Vygotsky's ideas on defectology and these were related to the key theoretical ideas of his more general explanation of the cultural-historical development of higher mental functions. Vygotsky's ideas on disability and special education were discussed to highlight his important notion of "the secondary disabilities" that arise due to the social treatment, attitudes, and labelling of children who have developed in an extra-normative way. Quite importantly in this regard, while Vygotsky highlights this important social dimension, he always sees the social as

dialectically related to the individual. This understanding has significant implications for how Inclusion and Inclusive education can be understood and reconceptualised in terms of its practice. Consequently, the next part of the report will be devoted to an exposition of ideas of “Inclusion” and Inclusive Education” in both the international and South African context.

Chapter Three

In the preceding chapters Vygotsky's general theory of development and its extension into the domain of defectology was discussed. In view of Vygotsky's belief in defectology and his attempts to deal with the cognitive and social consequences of a child who has developed extra-normatively, the question that arises is, how can Vygotsky's understanding of defectology and rehabilitative education be related to the contemporary understanding of "Inclusion" and "Inclusive Education"?

To elucidate these issues the present chapter will look at inclusion from an historical perspective and it will then explore the theoretical definitions encompassing inclusion and how it has come to be understood and conceptualised in a variety of ways. Following this discussion, an account will be given of how these concepts have been adopted in the educational context of South Africa. What is important here is to examine the international policy that drove inclusion, the Salamanca Statement, and how this had an impact on inclusive education as described in South Africa's White Paper Six. Lastly, this chapter will examine and explore how South African Inclusion policy deals with children who have biological and/or cognitive defects as well as how South African policy deals with learning disabilities and what this means for Special Education.

On Inclusion

As a preliminary observation it is important to remember that the idea of "integration" historically preceded the idea of "inclusion". In the past, teachers and schools used these two ideas interchangeably, as if they meant the same thing (Loreman, Deppler, Harvey, 2010, p.2). The main objective of integration was to construct integrated programs for students with disabilities in order to place them into the existing structures and regimes of conventional schooling practices. It was an attempt to "normalize" and enable pupils with unique needs to fit into a pre-existing paradigm of schooling, and this is where the medical model for categorizing children was preferred. The discourses present at this time was due to the judgement of what was considered normal and what was not, according to physical, cognitive or social impairments (Winzer, 2007).

The Salamanca Statement was issued at a time when most Western countries were attempting to integrate children who had previously been excluded from the regular school system. Due to a lack of satisfaction with integration, the concept was abandoned in favour of the new popular concept of “inclusion” (Hausstätter & Jahnukainen, 2014, p.119). This conceptual shift has caused consternation on both a political and an educational level. One cause of this perplexity could be a failure to fully effect integration in mainstream schools (Hausstätter & Jahnukainen, 2014, p.119). As a result of the failure to achieve integration, the move from integration to inclusion had to relate to the goals of the previous notion of integration, thereby blurring the line between integration and inclusion (Hausstätter & Jahnukainen, 2014, p.119).

The implementation of inclusion into educational practice was left to the national or local level. In most cases, this task became the responsibility of the same persons who were confronted with the previous task of integrating children with special needs into regular education at the time (Hausstätter & Jahnukainen, 2014, p.119). In other words, the new concept of inclusion was not supported by a global strategy for developing inclusive education. And, perhaps more importantly, the fulfilment of inclusion inherited the earlier problems faced by integration. This synthesis of the old goal of integration and the new goal of inclusion may be one of the primary reasons why Kiuppis (in Haug, 2017) argued that the concept of inclusion did not show itself as a common, fixed, worldwide aim of education, but rather, the idea of inclusion was nationally adapted to meet already existing educational practices.

(a) Defining the concept of “Inclusion”

According to Loreman, Deppeler & Harvey (2010), university researchers and teacher educators with a background and interest in the education of students with diverse learning needs are frequently able to speak with groups of educators about inclusion, and we frequently discover that educators are misinformed and confused about what “inclusion” actually entails. This is due to the complexity and multiplicity of definitions that have emerged over time in different educational contexts on a global and national level. In other words, based on its history, every concept has a plethora of definitions and as a result there will always be a multitude of often competing interpretations. This leads to serious difficulties in the way “inclusion” can be effectively implemented on a practical

level. Thus, in order to address the concept of “inclusion” effectively, we need to come to a common understanding of what inclusion is and what it is not, and what it entails before examining it within the realm of education, specifically in contexts where students have ‘special’ educational needs.

According to Allan (2007, p. 281), “inclusion” has become an “ideological battlefield” as a result of conceptual ambiguity caused by differing perspectives on what inclusion means in relation to impaired students in regular schools. A serious difficulty that arose with an all-inclusive definition of “Inclusion” is the fact that disability was lumped together with race, ethnicity, gender, sexuality, social equality (Heng, Quinlivan and du Plessis, 2019; Liasidou, 2011; Baglieri, 2017; Slee, 2011). This overall, rights-based framework has led to serious difficulties in thinking about “ability” and “disability” and also influenced the attempt “to include everyone” in the education system.

According to Booth, Ainscow, Black-Hawkins, Vaughan & Shaw (2000), inclusion can be defined as

... the process of increasing the participation of learners in, and the process of reducing their exclusion from, the curricula, culture and communities of neighbourhood mainstream centres of learning (p.122).

This definition emphasizes the significance of fostering a friendly and supportive atmosphere for all students, regardless of their background or skills. It implies the need to minimize barriers to learning and emphasize the importance of providing equal opportunities for all students. In keeping with the foregoing definition. Loreman, Deppeler & Harvey (2010) state that regular schools and classrooms need to be responsive and willing to genuinely adapt and change to meet the needs of all students as well as celebrating and valuing differences based on gender, culture, ability, sexual orientation, socio-economic context, religion, or any other area in which learning and/or development is affected. As such, “inclusion cannot exist in environments where some children are educated separately or substantively different to their peers” (Loreman, Deppeler & Harvey, 2010, p. 2). Inclusion is thus not only a socio-political-economic necessity to develop the potential of all children, but also a moral imperative flowing from children’s individual rights.

There are debates in the historical and contemporary conceptions of inclusion (Heng et al., 2019), and these debates are critical for recognizing the boundaries of inclusion. It is natural for new discourses to emerge as a result of prior frameworks (Heng et al., 2019). These new discourses frequently develop because of earlier frames; often distinguish themselves from their predecessors; and are offered as answers to the difficulties and obstacles encountered in earlier practice (Hyland in Heng et al., 2019). In addition, these discourses usually identify themselves in opposition to their predecessors and frequently present themselves as answers to difficulties or challenges that have been highlighted in earlier practices. However, what often goes unchallenged is how new discourses are expected to accomplish this “new duty” alongside socially approved practices ingrained in old frameworks while also having to fulfil the task of rectifying the wrongs in a given environment? (Hyland in Heng et al., 2019).

Slee (2006) contends that the notion of inclusion in schooling practices can “initially be understood as a concept of extending the scope of ‘ordinary’ schools so that they can ‘include’ a greater diversity of children” (p.109). This notion entails (a) the inclusion of different races, ethnicity, gender, and social class in education, and (b) the movement of students with identified disabilities from special education into mainstream settings (Baglieri, 2017; Liasidou, 2011). However, while “physical inclusion” in mainstream schooling may be able to deal with problems of race, ethnicity, gender, and social class, it is extremely difficult to see how such inclusion will deal with the very different and often demanding needs of children with specific and very real and severe physical and cognitive defects?

(b) Inclusive Education

Inclusive education is a process that favours a human rights approach with the goal and intention for the community to respect multicultural differences without discrimination, which fosters a liberal educational system. This system includes a child-centred pedagogy, a multicultural and multilingual orientation, and community ownership that support decentralized education management with full stakeholder participation (Khadka, 2021, p.75). The policy, according to CERID (1998 in Khadka, 2021, p71), further includes raising the participation rate of children with disabilities and providing educational opportunities for children with special needs *integrated in mainstream schools and establishing*

separate schools where appropriate. Thus, the main aspect of the practice of inclusive education is that it is concerned with the “transformation of school cultures to increase access, enhance school personnel’s acceptance of all students, [and] maximise student participation in various domains of activity and [to] increase achievement” (Artiles, 2006, p.67). However, this educational goal of “education for all” produces a fundamental problem, viz., to “provide effective, high-quality education for all children and include marginalized populations, *all while improving the quality and relevance of education in an increasingly diverse context*” (Acedo et al, 2009, p.227-228, emphasis added). In other words, inclusive education, must deal with many diversities (including children with physical and mental disabilities) and at the same time also improve the “relevance and quality” of the existing, “homogenised/undifferentiated” educational system. In addition, in many countries the success of inclusive education is often hindered by the community’s attitude towards disability, lack of involvement among stakeholders, as well as a lack of preparation for teacher competence to lead and practice inclusive education adequately. Furthermore, there are also issues related to policy implementation, environments that are not conducive to teaching and learning, a lack of infrastructure and funding, and a lack of parental involvement in curriculum instruction.

In view of the above description of the nature of inclusive education and the problems that arise in its implementation, it is necessary to look at how inclusion and inclusive education has been dealt with in the South African context.

(c) Inclusive Education in South Africa

The Salamanca Statement began the inclusion movement on a global level and was the motivation for the adoption of inclusive education in South Africa. The primary policy on inclusion and Inclusive in South African education is contained in White Paper 6 which proposes rules for a more inclusive society that would serve as a “cornerstone for an integrated and caring society” (DOE, 2001, p.10). As such, according to Hodgson & Khumalo (2015),

White Paper 6 [WP6] aims to implement the Schools Act and address the legacy of apartheid's divided education system. [It further] aims to create an

inclusive education system within 20 years of implementation, by 2021 (p. 177)

The policy is premised on a strong human rights basis and attempts to address the legacy of the apartheid education system by emphasising the right to an education free from discrimination and prejudice (Pillay & Di Terlizzi, 2009). Consequently, White Paper 6 seeks to change South Africa's educational system by *integrating all learners* using a more adaptable and suitable curriculum for learners' needs and abilities, working to develop district-based support teams to provide systemic support for all teachers who require it, and strengthening teacher's skills to cope with more diverse classes (Donohue, 2014; Muthukrishna & Schoeman, 2000).

The important thing to note about the policy is the intention to address both the historical injustices of the past as well as the demands of a new inclusive education system. This "dual-purpose" nature of the policy is significant because it attempts to address what Hodgson and Khumalo (2015) calls a "dual apartheid", which raises the question of whether both intentions can be achieved at the same time? In other words, is it possible to address all the iniquities of the consequences of the apartheid education system – which was racially determined and differentially funded thus leading to a massive imbalance in both infrastructural and human resources – and at the same time, propose a new inclusive education system which would address (a) all the previous ills of the education system, and (b) the new social demands of "inclusion" (viz., the inclusion of all race, class, gender, sexuality, ethnic, and different ability groups in an integrated system) with its related, infrastructural and skilled human resource requirements? This "tension" and the resultant bridge from policy to practice in South Africa in implementing inclusive education has proved to be a serious challenge (Naicker, 2006).

This "challenge" to implement Inclusive education in South Africa is further hamstrung by a failure to clearly indicate how such a new system would be funded both in terms of infrastructure as well as the development of the necessary human resources. As such, the policy appears to assume that the schools (and teachers) in their presently existing form simply need "to adapt what currently exists" to achieve the noble ideals of inclusion. In addition to this lack of a clear funding model it should be noted that despite the discourse (and purported implementation) of Inclusive Education in the South African education

system, the policy contained in *White paper 6 has no legal force*¹¹ and ultimately, therefore, remains merely symbolic¹².

(i) *Learning Disability and the South African Policy for Inclusion of all learners*

The term learning disabilities was originally proposed by Samuel Kirk in 1963 and can be defined as “...a group of disorders manifested by difficulties in acquisition and use of speaking, listening, reading and writing, reasoning and mathematical ability or social skills” (NJCLD, 1990, p. 1 in Orim, Ishifundi, Edim & Samuel, 2023) which arise due to the dysfunction of the central nervous system (Akpan & Beard, 2016). From the foregoing it will be evident that the way disability was conceptualised was based on the medical model and a resultant deficit approach which understood disabilities as being “pathological”. As such, the learning disability was seen to be rooted in the heads of individual learners, labelled in particular ways, and their disability was treated through placement and remediation in specialised educational environments.

As a result of the individualisation entailed by the medical deficiency model, a shift from these principles to broader social and ecological theoretical models became necessary. Following the development of the idea that individual identities are constructed through social relations, learning disabilities were concomitantly, re-conceptualised as a social construction. The resultant social model “. . . seeks to remove the causal link between impairment and disability” (p.548) while emphasising the social, economic, environmental, and cultural constraints that aid in exclusionary practices for those with disabilities. (Oliver & Barnes, 2010).

Based on the foregoing change in thinking about learning disabilities South Africa enacted a constitution that prioritized the rights of people with disabilities to include the social model of disability into a “constructivist revolutionary framework” (Naicker, 2006). In this

¹¹ The basis for this contention is the fact that the policy of Inclusion in South Africa is proposed in a white paper and this means it has technically not yet gone through the succeeding stages, i.e., a Green Paper, and the final promulgation in the Government Gazette. As such, the policy of Inclusion is technically not *de jure* despite its wide acceptance and purported implementation in South African education.

¹² It can be speculated that part of the reason for Inclusive Education remaining at a policy level may be due to the far-reaching changes that would need to be made to the South African educational system and the extensive financial, human, and infrastructural resources that would be needed for its implementation.

adoption, traditional forms of “disability”, “learning disabilities”, “learning defects”, and “mental retardation” amongst others, were discarded as retrogressive and an inappropriate labelling of children who are in fact “differently abled” and who were experiencing “barriers to learning” in the mainstream educational system. This re-conceptualisation has led to a move away from the “personalisation” and “individualisation” of “learning difficulties” in favour of a view that the problems such children experienced were more a consequence of the social situation of their development rather than any “internal deficiency.” Consequently, South African policy adopted the idea of “barriers to learning” (Walton, 2006). These learning barriers are believed to be constituted by a complex interplay between learners, their impairments, their contexts, and societal factors such as socioeconomic constraints, values, attitudes, policies, institutions, and individuals. According to the policy, all learners, including those with impairments or disabilities, are seen to be facing barriers in their interactions with the system and therefore the attention of the educational system must shift to tackle their barriers to learning. However, by including all children in the mainstream schools and changing the focus to “barriers to learning” an important issue arises: what role, if any, would special education play in the new South African educational system?

(ii) *Inclusion and Special Education in South Africa*

Inclusive education policy and the Schools Act state that all children have the right to attend a mainstream school in their neighbourhood, with reasonable accommodations. Placement at a special school is only considered for children who require highly specialized support that can only be delivered in such an environment.

However, according to White Paper 6:

Special needs education is a sector where the ravages of apartheid remain most evident. Here, the segregation of learners on the basis of race was extended to incorporate segregation on the basis of disability. Apartheid special schools were thus organised according to two segregating criteria, race, and disability. In accordance with apartheid policy, schools that accommodated white disabled learners were extremely well-resourced, whilst the few schools for black disabled learners were systematically

under-resourced. Learners with disability experienced great difficulty in gaining access to education. Very few special schools existed, and they were limited to admitting learners according to rigidly applied categories. Learners who experienced learning difficulties because of severe poverty did not qualify for educational support. The categorisation system allowed only those learners with organic, medical disabilities access to support programmes. (p. 9)

Given these historical inequalities, the proposed new education system had to deal with a “double apartheid”: racial and disability apartheid (Hodgson & Khumalo, 2015). To address this problem White Paper 6 emphasises the right to basic education for all children with disabilities and the provision of specialised education for such children (Hodgson & Khumalo, 2015). What is important to note in this regard is that the policy specifically refer to “specialised education” and not “special schools”. What this imply is that, according to the policy, “specialised education” would need to be provided in the existing (albeit, an appropriately re-structured) mainstream school!

In pursuit of the above ideal the proposed inclusive education program aims *to gradually convert conventional schools into inclusive schools* thus preventing children with disabilities from being separated into “special schools”. To achieve this aim, the policy strategy considered piloting so-called, 'full-service' schools which would be better equipped to accommodate children with impairments as compared to regular schools. Such schools, it was further believed, would accommodate all children and therefore cater for children who would presumably follow the usual, standard education system, while also providing “specialised education” for those who required it. Exactly how these “divergent” intentions would be achieved (both in terms of infrastructure and the training of appropriate teaching personnel) is unclear and this author was not able to find any evidence of such pilot “full service” schools actually being established and consequently, we still do not know how they would work in practice.

The scant research available (e.g., Hodgson & Khumalo, 2015) found that only a small fraction of learners with disabilities received specialised education and support, primarily based on race, and that *the existing education system had largely failed to deliver services relevant to learners' different needs*. Most learners with impairments

were either mainstreamed by default or did not attend school at all. According to Hodgson & Khumalo, (2015), at the time of their writing, there were an estimated 280 000 children with impairments who were not attending school. Consequently, “activists working on inclusive education and disability rights described the situation as 'a crisis'” (Hodgson & Khumalo, 2015, p .117). These authors thus suggested that the system needed to be reformed to be more inclusive, with all learners having equal access to education and training regardless of their specific needs.

Lastly, the implementation of Inclusive Education in South Africa was envisaged to be realised over a 20-year period and in 2021 the Department of Basic Education apparently started reviewing its implementation¹³. The findings of these reviews still need to be revealed and it is therefore not possible to assess the success or otherwise of the implementation of Inclusive Education and the provision of “specialised education” in such inclusive schools at this point in time.

Conclusion

In this chapter the ideas of inclusion and inclusive education were discussed, and this was followed by a discussion of inclusion and inclusive education in the South African educational context. The significant points that emerge from the discussion are the following: First, notwithstanding the noble ideals of “Inclusion” contained in the Salamanca statement there is no universally accepted definition of what the concept means. Second, following from the different understandings of the concept, the implementation of Inclusive Education is largely determined by the parochial understanding of the idea in each country. Third, in the context of South Africa, the adoption and implementation of Inclusion and Inclusive education attempts to address a two-fold purpose – to address the ills and consequences of the previous apartheid education system and at the same time, to establish an all-inclusive educational system. Fourth, based on the foregoing intentions, the South African policy on Inclusive education entails the transformation of mainstream schools to accommodate all children,

¹³ It is quite strange that the DBE would review the “implementation” of a policy which actually do not have any legal force. As such, the questions that we need to ask are, what exactly is being reviewed? The policy itself? Its *de facto* practice in (some) schools? The extent to which the policy has been adopted, if at all? And so on.

regardless of dis/ability and the provision of “specialised education” within such transformed schools. Fifth, the South African policy does provide for the placement at a special school of children who require highly specialized support that can only be provided in such an environment. However, the establishment of such “special schools” does not appear to have materialised in any substantial way. Sixth, as a consequence of the overall import of the “inclusiveness” of the Inclusive policy to ultimately include all children in the (transformed) mainstream school, those in need of specialised support has largely been “left behind”. Lastly, the policy/system has been described as being in a state of crisis and in need of reform. Thus, it is my contention that to address this crisis we require a fundamental re-think of “Inclusion” and “Inclusive Education” in South Africa and in this regard Vygotsky’s ideas on defectology could be an important theoretical resource.

Chapter 4

There have been various attempts to use Vygotsky's theories as a resource for Inclusive Education in the South African context. A superficial survey of this research shows, *inter alia*, the use of Vygotsky's "socio-cultural theory of learning" as a lens to explain teachers' perceptions of "the inclusion principle" (Mpanza, 2019); the use of, amongst others, Vygotsky's "socio-cultural learning theory" and its related ideas of "mediation and zones of proximal development" to strengthen "the semantic gravity" of the practice of "co-operative learning" in Initial Teacher Education (Walton, 2016); and, the use of Vygotsky's concept of the Zone of Proximal Development "which emphasise the importance of interaction between learners in the learning process" to promote "collaborative learning" as an "effective teaching practice" to promote Inclusion in South African Schools (Makoelle, 2013). What is obvious from such research is (a) the transformation of Vygotsky's developmental theory into a learning theory to support pedagogical practices to be used in Inclusive Education, and (b) a lack of knowledge about Vygotsky's ideas on defectology and how this may inform our thinking and practice of Inclusive Education. A notable exception to the foregoing, general tendency is the more coherent, informed, and contemporary theoretical understanding of Vygotsky's developmental theory and its related, defectological ideas, in the research conducted by Mabasa-Manganyi (2018). This research shows that Vygotsky "... developed a psychological framework for special needs education that directly applies to contemporary inclusive education" (Mabasa-Manganyi, 2018, p. 50) and further makes a very strong case for using Vygotsky's "social constructivism" as the basis for an "Inclusive Pedagogy".

While research such as that described above have contributed to the area of Inclusive Education, this research has been limited, as far as I have been able to ascertain, to using Vygotsky's thinking merely as a means to support "social constructivist" and "collaborative learning" pedagogical practices. However, it is my contention that Vygotsky's thinking is more than just a "pedagogical resource" and provides a very specific psychological framework for special needs education. If understood in its totality, Vygotsky's theory is unique because it attempts to provide an explanation of the development of normative *and non-normative* higher mental functions in children and

points to the development of instructional practices which take cognizance of these different types of mental development. As such, Vygotsky's thinking could form the basis of a truly Inclusive Educational system. To illustrate the numerous contributions that Vygotsky's ideas can make to thinking about Inclusion and Inclusive Education I will summarise the most significant aspects of the South African policy and critique these proposals and practices in the light of Vygotsky's theory, and then I will show what a Vygotskian approach to Inclusion and Inclusive Education would look like.

The South African Policy on Inclusion and Inclusive Education – A Critical Appraisal

As shown in Chapter 3, the South African policy on Inclusion attempts to address “a dual apartheid” and consequently has a dual purpose: to address the historical consequences of a previously racialised and grossly unequal educational system, and at the same time, address the contemporary demands of an Inclusive education which addresses the inclusion of previously silenced and sometimes, excluded groups (and sub-groups) in society, in a new, Inclusive education system. This dual-purpose nature of the South African policy makes it unique vis-à-vis other countries and consequently places a greater burden on the Policy to satisfy all the demands it seeks to address.

To address this “dual purpose” the policy consequently proposes the inclusion of all children in an integrated, public education system; the transformation of existing schools into inclusive schools where special education needs would be addressed, and lastly, the provision of special education to those who really need it, only in the last instance. Following on the latter proposal, the provision of special school and special needs education are not completely eliminated, but their establishment are also not actively encouraged. Furthermore, although not explicitly stated in the policy, it is necessary to identify and engage with the “barriers to learning” that all the included children may face in the mainstream inclusive school.

While there is no question that South African policy needed to address the historical iniquities of the previous apartheid educational system so as to include children of all races, classes, and so on, it is highly questionable whether lumping those with different mental and physical abilities in the same category as other classes/groups to be included, would serve their needs. In other words, by attempting to include everyone, some would

ultimately be “excluded” because their specific needs would suffer at the altar of the needs of the majority. This eventuality did indeed happen as was shown in Chapter 3 where most children with special needs are not catered for, or not attending school.

By contrast to the foregoing, Vygotsky was clear that children with special needs, must be catered for in an integrated, but differentiated educational system. That is, he wanted an educational system which did not separate children with special needs into special schools which are physically separated from the mainstream school. Thus, while such schools may not be physically divided, they should nonetheless address the needs of the different groups in a pedagogically appropriate way. This suggestion, may appear to be echoed in the South African policy but it is clear that Vygotsky is not talking about homogenising the system (eventually) to address everyone’s needs in the same classroom. His suggestion is much more complex and requires a more nuanced conception of integration which includes everyone, but at the same time, address the needs of those who require special education. Unfortunately, Vygotsky did not provide us with a clear indication of how such an integrated but differentiated system might look, and it is therefore up to us to develop this proposal further. What Vygotsky did provide us is a relatively coherent theory of development which have numerous implications for how we might educate especially non-normative children.

The Vygotskian Approach to Inclusive Education

The extensive discussion of Vygotsky’s theory of the cultural-historical development of higher mental functions and defectology in the earlier chapters clearly show that his thinking was fundamentally *developmental*. What this means is that, despite the widespread use of Vygotsky’s thinking as an explanation of *learning*, it is questionable whether he in fact provided us with a clearly articulated theory of learning. In addition, while Vygotsky is often labelled as a “social constructivist”, his thinking has been criticised as being both behaviourist and constructivist (De Vries, 2000) and hence we cannot definitively claim that he is a “constructivist” in the way that most educational research (including research in Inclusive education) tends to claim. In this regard, we know that Vygotsky spoke about the “internalisation of psychological tools” but he failed to provide us with an account of exactly what happens in the actual process of internalisation (see for e.g., Van Der Veer & van Ijzendoorn, 1985; Arieviditch & Van Der Veer, 1995). This failure

makes Vygotsky's "internalisation" appear like a simple process of "assimilation" and not as a process of "construction". So what then, does Vygotsky provide us in terms of Inclusive Education?

The most obvious contribution of Vygotsky's theory is the recognition that non-normative children develop differently and therefore require "*utterly different*" instruction which will " . . . deal with the primary deficits of [such children] *by encouraging and strengthening intact psychological function, as well as to repair and rehabilitate secondary deficiencies through psychological and pedagogical means*" and therefore encourage the development of "*compensatory faculties*" in these children. Very importantly, such instruction must be focused on the establishment of whatever (limited) "maturing functions" have emerged in the individual and must consequently be developmental in nature. In other words, such instruction would not be about "short-term learning" (although that might also happen in the process) but about the long-term development of non-normative children.

To accomplish the foregoing, non-normative children (even if they are included in an integrated educational system) require a very specific type of special education: it requires a very different curriculum extended over a longer period of time; highly skilled teachers who have been trained to provide such "utterly different" instruction as well as psychological help; and, the provision of the appropriate physical infrastructure which would be able to accommodate such children. What Vygotsky's thinking therefore indicate is that if we want to be truly inclusive, and ensure that no child is "epistemically excluded" (even if they are physically included in an integrated education system), we have to think beyond the confines of "a special education provided in an existing (albeit in a supposedly transformed) classroom".

The Vygotskian demands outlined above are quite extensive, not easily achievable, and does not only pose a serious challenge to the way Inclusive Education is conceptualised in South African policy, but also challenges the way purportedly Vygotskian research has been conducted in the domain of Inclusive Education. To date both of the foregoing were seen nearly exclusively in terms of the "social model of explanation" and the often used "social constructivist" and "collaborative learning" frameworks, and these were invariably labelled as "Vygotskian" despite their tenuous relationship to Vygotsky. As was

shown throughout this report, Vygotsky's thinking is based on a dialectical explanation of both normative and non-normative child development and cannot be reduced to a "social model of explanation". In view of the equal importance of the individual and the social world in the dialectical perspective, it is always necessary therefore not to treat individuals merely as a component of a social group (of whatever kind) but to recognise the unique forms of the interactions between their individual natural and social/cultural lines of development. What this means for the purposes of the current discussion is that in the consideration of including children in an Inclusive Education system we cannot simply treat them as a homogeneous group. We are obliged to consider, *inter alia*, (a) children who are physically and mentally "normal" (who have no mental and physical difficulties and can therefore "access" the psychological tools provided by the social/cultural environment without difficulty); (b) children who are physically "normal" but have mental difficulties (e.g., autistic children who may have difficulty "accessing" psychological tools); (c) children who are physically "abnormal" but mentally "normal" (who may exhibit physical difficulties dealing with their environment but are able "to access" the psychological tools without difficulty); (d) children who are physically and mentally "abnormal" (who will have great difficulty moving around physically and who may not be able to access the psychological tools provided by the social/cultural environment); and so on. This "disaggregation" is very important from a Vygotskian defectological perspective because each one of those "groups" identified above may require a particular type of Inclusion (and educational intervention) to address their specific needs.

A dialectical model of explanation also challenges a pedagogic approach which attempts to deal with "barriers to learning". While such an approach has definite merits, it tends to locate "learning difficulties" in the social organisation of education and concomitantly, minimise the contribution of the individual (and his/her biological constitution), in the production of learning difficulties in both normative and non-normative children. Moreover, as indicated by its label, "barriers to learning", the focus of this popular approach to Inclusive Education is on "learning" and not on the development (and developmental needs) of the child. It is therefore my contention, following Vygotsky, that it is necessary also to begin to think about "barriers to development" in Inclusive

Education. Such a focus, as Vygotsky argues, would further require focused instruction and cannot simply be reduced to the rather nebulous idea of “mediation” so commonly found in educational research and practice.

The primary objective of research in the field of defectology, according to Vygotsky, is to examine the unique developmental routes taken by children with various defects. He achieved this by researching special schools’ rehabilitative education from the standpoint that it was essential to research social variables around children and how these affect their overall development. His nuanced understanding is that we need to integrate children into the collective life, including education, in ways that will help the development of their capacities that would lead to satisfying lives in the cultural context, as opposed to separating them to shield them from their deficits.

Furthermore, from Vygotsky’s perspective, we need to think seriously about who is included? Why they are included? Can the education system as it stands, deal with the demands of children who cannot be included? If so, what provisions should be made to ensure that such children receive an education that will help them to develop their unique developmental pathways? The response to these questions cannot simply be to invoke (or pay simple lip-service to) human rights without devoting careful attention to the varied nature of the development of higher mental functions in all children. Such an approach, adopts a true dialectical perspective – taking both the biological and the social always into account - *for all children* and attempts to ensure that all of them are provided with the necessary, and sometimes, unique means to fulfil their potential.

Conclusion

In this chapter I attempted to show that Vygotsky’s theoretical understanding of the development of normative and non-normative, children challenge the South African Policy on Inclusion and Inclusive Education. He believed in an integrated, but differentiated, system of education which would cater to the needs of both types of children and their numerous sub-groups. However, as was shown, Vygotsky himself did not provide us with a clear indication of how such a system would look. Nonetheless, he did provide us with the theoretical means to understand the psychological development (and developmental needs) of both normative and non-normative children. The nature

of these needs required varied types of instruction which, in the case of non-normative children meant an “utterly different” form of instruction to enhance their different developmental trajectories. This understanding, it was further shown, was inspired by Vygotsky’s adherence to a dialectical model of explanation which is unlike the commonly used idea of “barriers to learning” especially in the context of Inclusive Education.

Conclusion

This research report attempted to provide a detailed exposition of Vygotsky's cultural-historical theory of the development of higher mental functions and its related ideas on defectology, and then, based on a discussion of Inclusion and Inclusive policy in the international and South African context, attempted to show the extent to which Vygotsky's ideas challenge some of the generally accepted ideas on Inclusion as well as the South African Policy on Inclusion and Inclusive Education. The report showed that Vygotsky argued for a physically integrated but differentiated educational system, which would provide for the needs of normative and non-normative children. The way such a system would look was unfortunately not addressed adequately in Vygotsky's extant writings and is therefore in need of more elaboration.

Notwithstanding the foregoing shortcoming, Vygotsky did provide us with a comprehensive theory of child development which challenges the received views about "learning" in the "Inclusive classroom" especially as it pertains to extra-normative children. In this regard the report showed that Vygotsky's did not provide us with a clearly articulated learning theory, and that his focus, especially with regard to extra-normative children, was fundamentally concerned with their *development*. Given this focus, Vygotsky argued very strongly for what he called, "utterly different" instruction to help extra-normative children develop their unformed or even malformed, higher mental functions, and further to develop compensatory functions to deal with their world.

However, it should also be acknowledged that Vygotsky did not provide us with any precise means to establish/assess the development of maturing functions in both normative and non-normative children. In this regard the often-used idea of the ZPD is not sufficient to point to the individual's capacity "to use the help provided by a teacher" to establish and develop their maturing functions. We need to operationalise this definition and to develop precise assessment tools to help us to establish which functions are in the process of maturing and which have not at all (especially in the case of non-normative children). Similarly, Vygotsky's contention about the "help" or "instruction" provided by a teacher must also be operationalised to establish the nature and specific "help" that needs to be provided to both normative and non-normative children.

A very useful resource to help us accomplish the foregoing operationalisation could be provided by Reuven Feuerstein's Learning Potential Assessment Device (LPAD) (Feuerstein, et al., 1979) which may help us to identify the child's developing higher mental functions and the Instrumental Enrichment (IE) program which he developed to "remediate" children "who have been deprived of their culture". The adoption of the foregoing may help us to provide an education to all children in terms of their educational needs and consequently ensure that the human rights of every child is secured.

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