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Meaning making in special needs pedagogy

a theoretical study of Vygotsky's framework ideas and their impact on cognitive and social constructivist research on meaning making.

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Master thesis in special needs pedagogy

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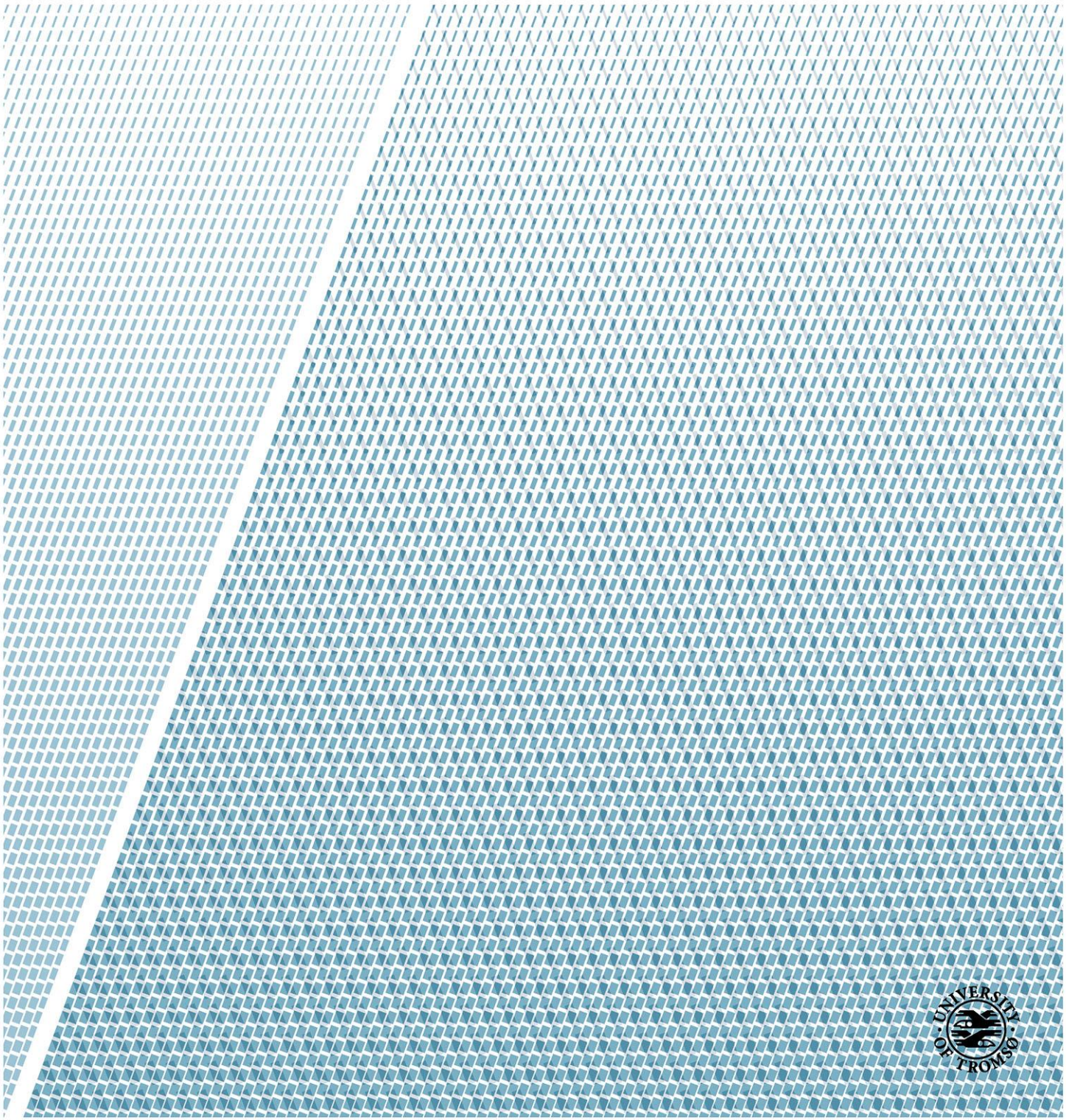

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Summary

The master thesis focuses on the examination of the framework ideas on meaning making in Vygotsky's holistic theory of child's development and the analysis of the evolution of these ideas within the cognitivist and the social constructivist approaches. The thesis embarks on the understanding of how later research converges with Vygotsky's ideas, how Vygotsky's original ideas can be clarified, explained and operationalized with the help of the cognitivist and the social constructivist approaches and whether this new knowledge can serve the basis for development and application of meaning making in special needs pedagogy.

The thesis is a theoretical study - a systematic review of relevant literature on a selected topic. The relevant literature on the topic of meaning making for the purposes of the present thesis encompasses Vygotsky's original works *inter alia* in Russian, Lakoff and Johnson's study of cognitive metaphor within the cognitivist approach to meaning making and Bruner's research on folk psychology and narrative within the social constructivist approach. A theoretical study of the topic seems appropriate because a fragmented use of meaning making in pedagogy does not allow a comprehensive empirical study. Besides, a theoretical thesis permits a statement of open questions allowing exploring the topic from different perspectives.

Findings indicate that, firstly, there are a few framework ideas in Vygotsky's theory that are important for the application of meaning making in special needs pedagogy. Inter alia, these are the following ideas: the changing relations between mental functions in child psychological systems, verbal thinking, private speech and inner speech, instrumentalism, appearance of everyday (spontaneous) concepts, the role of imitative modelling and personal mental-emotional experience in child's meaning making within the zone of proximal development. Secondly, Vygotsky's ideas on meaning making are sustained, explained and operationalized in Lakoff and Johnson's theory of metaphorical thinking and cognitive metaphors and in Bruner's theory of folk psychology and narrative structuring of reality. The three theories converge in the main point: language, thinking and socially meaningful activity are strongly interconnected in child's meaning making. Thirdly, Lakoff and Johnson's and Bruner's theories provide special needs pedagogues with the knowledge of how cognitive metaphors (e.g. in psychoeducation) and folk theories and narratives (e.g. in the form of social stories with autistic children) can contribute to adjusting child's meaning making for the purposes of the future lives of children with developmental peculiarities.

Chapter 1. Setting the scene

1.1. The project's background

Humans are meaning seeking beings and all their actions are acts of meaning, including speech acts (Bruner, 1990, p.33). It is natural for people to make understanding and create meanings of the outer realities and acquire awareness of one's place in the changing world, otherwise the outer world is perceived as a chaotic place not suitable or safe for survival (Bruner, 1990, p.56). People make meaning of the outer realities through cognitive patterns typical of all human brains (Vygotsky, 1982, p.375; Gee, 1999, p.52), and through systems of cultural values and social attitudes typical of the societies where their personalities have been developing (Vygotsky, 1982; Vygotsky, 1934/2012; Bruner, 1990, p.34; Gee, 1999, p.52). Language is an indispensable part of meaning making (Vygotsky, 1934/2012). Language is both a cognitive mechanism and a storage-system of socio-cultural and personal values (Lakoff & Johnson, 1980; Lakoff & Johnson, 2003). The language of an individual reflects the individual's picture of the world, and at the same time creates prerequisites for a life scenario. According to Bruner, Wittgenstein observed once: "Limits of our language create boundaries for our actions"[1] (as cited in Bruner, 1990).

In the course of developing cognitive functions, acquiring language, social skills and new experiences, children develop certain 'frames'/'schemes' for understanding the world around them. These frames are, in a way, patterns of different life situations. These patterns help to sort out, categorize and conceptualize new information and circumstances, i.e. to make meaning of new situations. If something unusual or unexpected happens and the meaning becomes unclear, the meaning-making process is triggered again (Schultz & Lien, 2013). Schultz, Langballe, & Raundalen (2014) observe that particularly the inability to comprehend and to make sense of the world around causes children the loss of safety and leads to personal crises. It is reasonable to argue that the knowledge about meaning making acquires special significance for all who work with children.

Language and thinking are claimed to be crucial in meaning making (Vygotsky, 1934/2012; Bruner, 2004; Lakoff 1987). For a long time, these systems have been studied separately in different fields of knowledge. Language as a semiotic system, once claimed by Ferdinand de Saussure, has been studied by linguists from different perspectives. Thinking at large and the human brain have been studied by neuroscientists – neurobiologists and psychologists. Lev Semionovitch Vygotsky was one of the first who proclaimed the indispensability of neuro-

[1] Sometimes translated as "the limits of language are the limits of my thought" (Weismann, 1979).

cognitive, linguistic and cultural-historic traits in child's development (Vygotsky, 1934/2012). He emphasized the role of pedagogy and formal schooling for the formation of child's conceptual systems and personality in social-cultural contexts (Vygotsky, 1934/2012). Subsequent research provides examples of the significance of meaning making in educational contexts (Petrie & Oshlag, 1993; Schultz & Lien, 2013; Skarstein, 2013; Bruner, 1966; Bruner, 1996; Woods, Bruner, & Ross, 1976).

Vygotsky's research has vividly shown that meaning making is crucial for special needs pedagogy (Vygotsky, 1983; Vygotsky, 1934/2012, p.135, p.265). If a child's cognitive, perceptual, sensory etc. systems are impaired or deviate in some way, meaning making patterns may differ at the outset from those of other children. The heterogeneity of physical, psychical, psychological, neurobiological and other peculiarities does not fit any specific guidelines or standard procedures. However, there may be traced some common features of meaning making processes characteristic of all human minds. What seems to be necessary to do with the purpose to implement meaning making in special needs pedagogy is to internalize the existing knowledge from other fields, to understand the pragmatic value of meaning making for children with special needs, and to developing a method of implementation of meaning making in special needs pedagogy.

1.2. What is meaning making? – the point of departure

An individual's mind and thinking are pattern-organized (Vygotsky, 1982, p.375). Our former experiences are stored in cognitive patterns whose nature and structures are not yet fully studied (Gee, 1999, p.52). Language participates actively in the formation of these structures (Vygotsky, 1982, p.415). Every new life situation may become confusing because it does not necessarily fit into existing pattern-organized thinking of an individual. The confusion triggers a meaning making process. It starts with interpretation of a new situation in terms of existing conceptual frames (Fillmore, 2006), or rather through prototypical categorization (Rosch, 1983). An important aspect of meaning making is identification of oneself and the voluntary act to make meaning of these new circumstances (Frankl, 1992; Vygotsky 1934/2012, p.348, Bruner, 1990, p.100). The existing cognitive frames are reshaped, or a new frame arises only if it makes sense for this person (Frankl, 1992; Antonovsky, 1987). One can hypothesize that individual temperamental traits, one's emotional state, one's motivation, neurobiological characteristics of the brain, value or moral systems, and acquired social-cultural experiences can impact meaning making, each to a certain extent. Awareness of one's changed self in a new setting (which is maturing from the pedagogical perspective) contributes to realization of

manageability of a new situation and increases motivation (Antonovsky, 1987). If meaning is not ascribed to or deduced from a new situation, meaning making fails and it may lead to undesirable consequences: stress, trauma, suicide, socially dangerous behaviour, or can trigger psychoses, psychosomatic processes etc. (Hobfoll et.al., 2009).

The core component of meaning making is meaning. Depending on the field of knowledge meaning is understood differently. It is an objective in itself to present the overview of all the known definitions of meaning. For the purposes of this thesis I have derived the following understanding of meaning: it is a concept (conceptual frame or cognitive pattern) bound by a sign (word).

Meaning making gives us a framework for mapping, categorizing and conceptualizing of the outer world and relating our experiences in the outer world to linguistic representations. Meaning making theories explain how human brain understands and processes impressions and knowledge about the outer world and the humans' role and place in it (Skarstein, 2015). Moreover, meaning making theories attempt to explain how new knowledge and experiences impact on our way of thinking about the outer world (Bruner, 1986; Lakoff, 1987; Skarstein, 2015) and how language can contribute to finding solutions for challenges occurring under unknown circumstances (Bruner, 1990; Lakoff & Johnson, 2003).

There exist two points of view on meaning making: cognitivist and social constructivist (e.g. Skarstein, 2013, p.35; Penne, 2006, pp.24-27). In case cognitive aspects of meaning making are taken into consideration, the main focus is placed on the cognitive strategies of conceptualizing the world, common for all human brains. The human brain is understood as predisposed to recognize and internalize new experiences in terms of a certain system of patterns or constructions.

However, despite common predispositions, brain's cognitive structures are further developed and modified in the process of growing and learning under a strong influence of the society and the culture in which a child develops. The latter socio-cultural aspect is pointed out by social constructivism. Social constructivism emphasizes the difference between similar cognitive patterns in different cultures which happens because of the different value coding of the same phenomena in various linguo-cultural communities.

Having taken into consideration both views on meaning making, I suggest the following definition as a point of departure for the present thesis: meaning making is the process of internalizing experiences by way of creating or reshaping conceptual representations bound by

linguistic representations according to certain patterns under the influence of social-cultural settings. Having said this, I will now turn to the objective of the thesis and research questions.

1.3. Objective and research questions

The objective of the master thesis is to examine the genesis of the theory of meaning making in Vygotsky's pedagogical-psychological theory of child's development and to analyze the evolution of the meaning making theory within the cognitivist and the social constructivist approaches. This will provide a basis for a discussion of applicability of meaning making in special needs pedagogy.

To achieve the objective it is necessary to resolve three intermediate research questions.

Firstly, I must point out, describe and discuss relevant pillar concepts regarding meaning making in Vygotsky's holistic theory of child's cognitive, linguistic and social-cultural development.

Secondly, I must analyse how Vygotsky's original framework ideas can be understood and operationalized with the help of new research within the cognitivist and the social constructivist approaches to meaning making.

Thirdly, I must clarify how these two approaches converge with Vygotsky's ideas, how they contribute to the theory of meaning making and how new knowledge within them opens up for new perspectives in pedagogical contexts.

When the research questions are answered in the corresponding chapters of the thesis and the objective is achieved, it will become possible to summarize my findings and conclusions in the last chapter.

Chapter 2. Method and methodological challenges

In this chapter I will explain how I have dealt with the methodological challenges of literature search in a theoretical study. Since the choice of sources has profound consequences for the thesis's outline, it will be necessary to shed light on how I have made an assessment of relevant sources in order to secure the necessary breadth, depth and accuracy of the theoretical research. I will also give an account of my background which have impacted on my interest to this topic. Further, I will explain how I have worked with the Russian sources and, in particular, translations of Vygotsky's texts. Then, I will briefly summarize the main postulates of the cognitivist and the social constructivist approaches and explain why I consider Lakoff and Johnson's theory of cognitive metaphor and Bruner's theory of the narrative construction of the reality as relevant for my research. I will also clarify why it has become useful to refer to some empirical data collected by me in my practice and during my internship period at Statped – Nord.

2.1. Theoretical study

A theoretical study is primarily a systematic critical review of relevant literature on a selected topic. It consists in a summary of the chosen sources with their discussion (Hart, 1998). I have embarked on a theoretical study of the topic of meaning making because despite of its originality and usefulness, its use in the fields of knowledge with respect to child development seems rather fragmented. Without clearly formulated postulates of the theory and justification of its relevance for the chosen field, its effective application will be problematic. Meaning making applies in special needs pedagogy sporadically and unsystematically, thus, empirical research does not seem feasible. A theoretical study seems appropriate because it allows a statement of open questions permitting mapping of the field and exploring the topic from the outset. Besides, it gives an opportunity to immerse oneself in large quantities of relevant literature in a relatively short time (Hart, 1998, p.26). Generally speaking, a theoretical study gives researchers the opportunity to examine how previous research has contributed to the field. "The knowledge pool" forms the basis for new research questions and allows to identify gaps in previous research (Hart, 1998, p.27).

Inspired by the previous research on meaning making in an educational context (Schultz & Lien, 2013; Skarstein, 2013), I have chosen the topic for my master thesis. The formulation of the objective has dictated the choice of literature for the review. In Scandinavian social science and humanity research there has traditionally existed distinction between the cognitivist and the social constructivist theories (Skarstein, 2013, p.35). Penne (2006) describes this debate

focusing on the previous research where an individual's meaning making of the world around occurs through language (pp. 24-27).

Both the cognitivist and the social constructivist approaches are comprehensive and have been elaborated by a number of researchers. In order to achieve the objective of the thesis, i.e. to clarify how Vygotsky's ideas on meaning making can be operationalized in special needs pedagogy, I have selected three scholars, George Lakoff and Mark Johnson representing the cognitivist approach to meaning making (Lakoff, 1987; Lakoff & Johnson, 1980; 1990; 2003) and Jerome Bruner – the social constructivist (Bruner, 1986; 1990). The main reason for this choice is that these researchers can be named as founders of a comprehensive meaning making theory, encompassing language and thinking as the driving force of meaning making, as was once pointed out by Vygotsky (Vygotsky, 1934/2012). Bruner and Lakoff & Johnson have elaborated on the idea that human mind is pattern-recognizing and pattern-building, suggesting cognitive metaphor and narrative, correspondingly, as patterns at root of human thinking.

I have focused my attention on the fundamental works by Lakoff in co-authorship with Johnson, and by Bruner revealing the groundbreaking ideas which later constituted the cornerstones of meaning making and which in their turn were further developed in relevant subsequent research. In the following subsections of this chapter I will point out the main ideas in the scholars' works and will also explain how the scientific paradigm within which their research has been carried out, cognitivism and social constructivism, can help understanding the ideas behind their theories. Nevertheless, it is worth mentioning that I have also taken into consideration ideas and thoughts by other researchers who have contributed to the field, however, only to the extent when it was necessary to reveal the complexity and versatility of the issues discussed. Therefore, I have confined my discussion mainly to what has become the major source of refence in meaning making in similar research.

Another methodological issue which needs to be explained is the use of empirical data. Since the practice of meaning making application is somewhat disjointed, it does not seem possible to give account of certain cases when meaning making applies, either using a qualitative or a quantitative research method. Instead, I have chosen to give some examples of the use of meaning making to illustrate the theoretical discussion. When discussing relevance and application of meaning making in special needs pedagogy in the corresponding subsections on the pedagogical potential of metaphor and narrative, I give some examples from my own practice and share some reflections on my observations of the counselling process at Statped-

Nord[2] to illustrate how meaning making has already found its way into the field of special needs pedagogy.

2.2. My background and development of the research interest within the topic

I got my first pedagogical education in Arkhangelsk, in Russia. The Russian pedagogy acknowledges Vygotsky's genius and in fact is based on Vygotsky's theory. Therefore, it is not surprising that Lev Vygotsky is the greatest authority and mastermind for the whole pedagogical school in Russia. Being a student, I got acquainted with the core conceptions of his theory and studied some of them more thoroughly in my master thesis devoted to the acquisition of a foreign language by children of the school age. I focused then on the zone of proximal development in foreign language teaching and emergence of 'academic concepts' from 'everyday (spontaneous) concepts' (Vygotsky's terms) in the process of learning and teaching at school. Inevitably, the issue of the unity of language and thinking in the process of conceptualization of the world caught my attention.

Later, I got interested in the topic of how language as a storage of values of a certain linguo-cultural community impacts people's conceptualization of the world and whether there is a difference in the naive pictures of the world of peoples speaking different languages. This led me to an idea to make a linguistic research of the issue and apply for a research position at the Hertzen State Pedagogical Institute in Saint Petersburg. My linguistic research was devoted to the cognitive metaphor of quantitative change (Melenteva, 2001), and the basis for it was George Lakoff and Mark Johnson's theory of conceptual metaphors in everyday language. Through my practice as a teacher, I realized the potential of applying metaphoric conceptualization in work with children with different challenges, mainly behavioral and emotional.

Being a master student in special needs pedagogy at the University of Tromsø, I got inspired by lectures on meaning making within the course of 'Social and Emotional Difficulties' (Skarstein, 2015; Schultz & Lien, 2013). Then, I first got to know about the theory of meaning making and two different approaches to it: cognitivist and social constructivist. This provoked my research interest mainly to the narrative conceptualization of the outer reality and I started reading Jerome Bruner's works.

[2] The counselling process took place at the meetings of the working group specializing in complex learning difficulties at Statped-Nord in April 2017. The workshop was devoted inter alia to the application of psychoeducation in Statped's counselling. Gidske Kvilhaug (senior advisor from Statped-Sørøst) provided recommendations to specialists of Statped-Nord regarding children with Tourette and AD/HD (OCD; ODD etc).

I have realized that meaning making is in the focus in different fields of science and I could not avoid reading and being acquainted with other relevant research in these fields. I was fascinated by two scholars in this regard: medical sociologist Aaron Antonovsky and neurologist and psychiatrist Viktor Frankl. Antonovsky's salutogenesis and the sense of coherence (Antonovsky, 1987) led me to an idea to describe the psychoeducational practice of Statped-Nord in my internship report in terms of Antonovsky's three meaning making stages: intelligibility, meaningfulness, manageability. Frankl's logotherapy and existential psychology (Frankl, 1992) inspired me for further reading of psychological research.

Meaning making is central for cognitive psychology whose cognitive model is based on the hypothesis that it is not the situation "that determines what peoples feel but rather the way in which they construe the reality" (Beck, 1995, p.14). Aaron Beck's[3] idea behind it is that cognitive therapy intends to produce a cognitive change in patient's construction of reality (Beck, 1995, p.2). This is exactly the purpose of trauma-based cognitive-behavioral therapy (Cohen et al. 2012). This therapy employs both narrative (Grosso, 2012, p.166-174) and metaphor as part of psychoeducation (Grosso, 2012, p.1591-161) in work with children with developmental disabilities. The most interesting part of my readings of psychological research has become 'narrative therapy' (Payne, 2000; White, 2007) because I have realized how Bruner's ideas on 'talking cures' can be implemented in practice.

Despite their usefulness and thought-provoking power, the above-mentioned theories have little to do with pedagogy, they rather deal with psychological or psychotherapeutic interventions with clients of different age. These theories were rather guiding in my search of the research topic for the present master thesis than decisive. Antonovsky's sociological research, Frankl's existential psychology, Beck's cognitive psychology, White's narrative therapy have confirmed my hypothesis that in dealing with child's meaning making within pedagogy or special needs pedagogy, one needs to go to the root of pedagogical theory of child's development, namely to Vygotsky's theory. This is how I have defined my research objective for this thesis.

2.3. Vygotsky's research

It is widely argued that Vygotsky left a huge heritage (Bruner, 1986, p.72). His theory is complex and versatile. Vygotsky never ceased to uphold the principle of reconstruction of psychological phenomena from data seemingly belonging to many different disciplines (Kozulin, 1986). It is difficult to say whether he was only a linguist, a psychologist or a

[3] Aaron T. Beck is considered to be the developer and refiner of cognitive therapy.

pedagogue. His significance for all these fields of knowledge is impossible to overestimate, however, I will allow myself to risk assuming that his interest in the development of child's conceptual systems, thought and language through scaffolding within the zone of proximal development makes it possible to attribute his theory rather to pedagogy (or pedology[4] – Vygotsky's term) than linguistics or psychology. Kozulin (1986) observes, that "for him culture and consciousness constituted the actual subject of inquiry, while psychology remained a conceptual tool, important but hardly universal".

I have read and used in my thesis almost all of Vygotsky's works gathered in L.S. Vygotsky's collection of works in six volumes, except for those devoted to the scientific methodology and the psychology of art. In particular, I have studied thoroughly the following publications in Russian: Thought and Language - volume 2 (Vygotsky, 1934/2012), Lectures on Psychology – volume 2 (1982), The evolution of high mental functions - volume 3 (Vygotsky, 1983a), The issues of child (age-related) psychology - volume 4 (Vygotsky, 1984), The foundations of defectology - volume 5 (Vygotsky, 1983). I have also read articles and books which are available on the Internet and as well those which I found in the Arkhangelsk city library in Russia in summer 2017. The fact that Russian is my mother tongue allows me to have a direct access to authentic works by Vygotsky which, in its turn, makes it possible to study a lot more other sources than those translated into either English or Norwegian.

Some of Vygotsky's works and many parts of his works are translated into different languages, including English and Norwegian. The existing translations seem to put certain limits on understanding of Vygotsky's ideas. Therefore, after certain considerations, I have chosen to translate the quotations myself, with a few exceptions. In case of confusing wording, I have used the translation of Vygotsky's 'Thought and Language' into English by Hanfmann, Vakar, Kozulin (2012). Their translation is a revised and extended version based on additional research of other sources.

There are a few methodological and ethical challenges arising from the work with both Vygotsky's original and translated texts, one of them being the specifics of his style of writing and the choice of terms. Vygotsky wrote a lot, often repeating himself,[5] sometimes just briefly

[4] In the beginning of the 20th century there was applied an interdisciplinary approach to child development and to denote this approach Vygotsky used the term **'**pedology'. It "was a widely used term, meant to designate a sort of scientific basis for pedagogics" (Kozulin, 1986: lvii).

[5] For example, cf. chapter 4 and chapter 7 in Thought and Language (Vygotsky, 1934/2012).

outlining ideas.[6] It can be assumed that some things he considered self-evident or some things he intended to continue to develop in his later works which he never wrote because of his premature death at the age of 37. From this perspective, a methodological challenge has been to ensure a proper source reference. Therefore, at times I refer to several pages in one and the same work to confirm the same idea to secure the accuracy of research.

Moreover, Vygotsky tried to disguise some ideas due to the requirements of the Soviet ideology (Leontiev, 2014, p.6). Furthermore, some of Vygotsky's posthumous publications were substantially revised with regard to the contemporary Soviet ideology which distorted the meaning of Vygotsky's ideas. The team of his collaborators, known as Vygotsky Circle, made a substantial work deciphering his notes and interpreting his ideas. Among the most famous of them were Luria,[7] Leontiev, Vygotskaya, Zaporozhec, Elkonin, Galperin and some others. It should be mentioned that their interpretations of Vygotsky's ideas differ, sometimes to a greater extent (Leontiev, 2014, p.6).

More recent research on Vygotsky theory is carried out by a few researchers, among them Van den Veer and Valsiner (1991, 2014), Yasnitsky (2011, 2012, 2014), Kozulin (1986a, 2014). Acknowledging the merits of all these scholars, I have chosen to rely on Alex Kozulin's research. I like his approach because, in my opinion, he does not step beyond interpretation into the sphere of own theorizing. By this I mean that he focuses on revealing Vygotsky's ideas in a clearer way rather than adjusts Vygotsky's theory to his own research. I refer to Kozulin's interpretation of those Vygotsky's ideas which I myself found challenging to understand.

Vygotsky's theory is complex, and it is not always possible to single out and discuss certain elements of it. Therefore, scaffolding, the zone of proximal development, higher psychic (mental) functions, academic and everyday (spontaneous) concepts etc. can be understood only in connection with each other. At the risk of oversimplification of Vygotsky's ideas, sometimes I had to summarize them shortly in a more or less articulated version within the limits of this master thesis. I tried to follow Vygotsky's line of thinking as precisely as possible. Since some of his language is difficult or even impossible to translate or even render in English, I had to interpret his position and formulate it with my words. The ethical challenge in this regard can be the risk of plagiarism, and I cannot but mention that I am aware of such a risk in research

[6] For example, the significance of voluntary and emotional spheres for meaning making (Vygotsky, 1934/ 2012, pp.344-345).

[7] By the way, it was Luria who drew Bruner' attention to Vygotsky's theory and helped him with translations (Bruner, 1986).

like this. In cases when it was not possible to verify my interpretations and conclusions via experts' opinion, I suggest my version, but I always indicate this in the text of the thesis (for example, by saying "I understand it in the following way", "I suggest understanding it like…" or "it seems possible to interpret it like…" etc).

When examining Vygotsky's works, I have paid attention to the fact that some of his ideas are less known than others, despite their value for pedagogy. One often associates Vygotsky's theory with the zone of proximal development and scaffolding (in fact, the latter is not Vygotsky's term). Undoubtedly, these concepts are important, but I have also decided to shed some light on some other ideas which are worth researching on in connection with meaning making: private speech/inner speech/verbal thinking, personal mental-emotional experience (in Russian: переживание, perezhivanie) and imitative modelling (in Russian: подражание, podrazhanie). These ideas I discuss in chapter 3.

2.4. George Lakoff and Mark Johnson and cognitive semantics

Lakoff and Johnson's theory of cognitive or conceptual metaphors has become central for meaning making due to its explanatory force regarding primary mechanisms of human cognition. Lakoff and Johnson's research falls within the scope of cognitive science. Cognitive science focuses on the inner mental activities such as thinking, perception, memory, language, attention, and problem-solving (Cooper, 1993, p.12). In other words, cognitive science brings together the knowledge about human mind from psychology, linguistics, anthropology, philosophy and computer science (Lakoff, 1987, p.xi). It uses a computational metaphor to define the mind: information comes in, is being processed, and leads to certain outcomes (Ertmer & Newby, 1993, p.50). The main questions it tries to answer is how our conceptual systems are organized and how we make sense of our experience (Lakoff, 1987, p.xi). These are the questions which are directly concerned with meaning making.

Language is not only viewed as a means of communication but as a cognitive instrument contributing to conceptualization of knowledge. This postulate goes back as late as Vygotsky's groundbreaking work 'Thought and Language' (Vygotsky, 1934/2012). Since language has been viewed as an inseparable component of mind activity leading to creation of sense and meaning, cognitive semantics has played a crucial role in the evolution of meaning making theories. Its significance was also acknowledged by Vygotsky (Vygotsky, 1934/2012, p.13). Cognitive semantics specifies, as a point of departure, that language is part of a more general human cognitive ability, and can, therefore, only describe the world as people perceive it (Croft & Cruse, 2004, p.3). Fillmore's frame semantics (Fillmore, 2006), Langacker's cognitive

grammar (Langacker, 1987), Lakoff & Johnson's cognitive metaphors (Lakoff & Johnson, 2003) and Rosch's prototypes (Rosch, 1983) have paved the way to viewing language structures as keys to mental representations (Melenteva, 2001).

What makes Lakoff and Johnson's cognitive metaphor theory stand a little apart is that it pays tribute to social and cultural prerequisites of meaning making, thus bridging the cognitivist and the social constructivist views on meaning making. For Lakoff, meaning is what is meaningful to thinking. The central concern for his study of reason and sense is "the nature of the thinking organism and how it functions in its environment" (Lakoff, 1987, p.xi). Lakoff and Johnson's theory is based on the famous postulate that "our conceptual system is largely metaphorical, then the way we think, what we experience, and what we do every day is very much a matter of metaphor" (Lakoff &Johnson, 2003, p.3).

I have read and used the following works by Lakoff and Johnson, mainly for the reason of their centrality: Metaphors We Live By (Lakoff & Johnson, 2003), Conceptual Metaphor in Everyday Life (Lakoff & Johnson, 1980), Lakoff's Women, Fire and Dangerous Things (Lakoff, 1987) and some others.

Lakoff and Johnson's theory of cognitive metaphor seems plausible for the explanation of how Vygotsky's ideas on the formation of conceptual systems can be understood for the purposes of special needs pedagogy. Their theory of metaphorical thinking spells out peculiarities of conceptualization of either physical or cultural phenomena in a common human mind. This theory brings to light how the conceptual system operates in its entirety, how conceptual representations are coordinated, and, thus, this theory can help to understand where deviations in language, thinking and meaning making occur in the course of child's development.

2.5. Jerome Bruner and social constructivism

Interestingly, both cognitive and social constructivist approaches seek an answer for the same question: how one can describe a pattern according to which categorization occurs (Skarstein, 2013, p.35). Bruner's narrative construction of reality is one of the possible answers to this question. In fact, Jerome Bruner was one of the pioneers of cognitive psychology but later in his famous book 'Acts of Meaning', Bruner (1990) refuted the computational approach to the study of the mind, thus taking a huge step from cognitivism to constructivism. There is a fundamental difference between cognitivism and social constructivism. For constructivists meaning is not in the mind of a speaker but something which is constructed in communication between speakers. Cobley (2001) explains:

> The "constructivist" approach sees meaning neither in the control of the producer nor the thing being represented; instead, it identifies the thoroughly social nature of the construction of meaning, the fact that representational systems, rather than their users and objects, allow meaning to occur. (p.3)

The term social constructivism was first introduced in Berger and Luckmann's book "The social construction of reality" (Berger & Luckmann, 1971). The telling title of the book points to the main idea which underlies this theory of knowledge: knowledge about the world is constructed in social interactions. Social constructivism can be considered a scientific paradigm whose focus is on an individual's learning and development occurring in the process of social intercourse.

I have read and used the following works by Bruner: Acts of Meaning (Bruner, 1990), Life as Narrative (Bruner, 2004), Actual Minds, Possible Worlds (Bruner, 1986). I have chosen these works because they seem to encompass the main postulates and ideas of Bruner's theory.

Bruner's ideas about constructing the knowledge of the world and making meaning of new life experiences in the setting of culturally conditioned social intercourse in the form of narrative, stand close to social constructivism. Bruner specifies, "the constructivist view is that 'stories' do not 'happen' in the real world but rather, are constructed in people's heads" (Bruner, 2004, p.691). He puts forward the idea that the stories, which are constructed in people's heads, are based on a narrative-pattern. This idea has become very popular, inter alia in narrative therapy. Polkinghorne (1988) gives a pertinent definition of narrative, very much in Bruner's style:

> Narrative is a scheme by means of which human beings give meaning to their experience of temporality and personal actions. Narrative meaning functions to give form to the understanding of a purpose to life and to join everyday actions and events into episodic units. It provides a framework for understanding the past events of one's life and for planning future actions. It is the primary scheme by means of which human existence is rendered meaningful. (p.11)

Taken into consideration the above-said, it is reasonable to argue that narrative possesses a significant potential for pedagogy. The possibility to construct narratives together with a child and in this way to teach a child social codes, cultural norms and impact on deviations, makes Bruner's narrative theory an instrument operationalizing Vygotsky's pillar idea of 'personal mental-emotional experience' and 'imitative modelling' in special needs pedagogy.

Chapter 3. Meaning making in Vygotsky's theory

This chapter is devoted to the examination of the origin of meaning making in the process of development of child's higher mental functions and formation of his or her conceptual systems. I will describe how meaning making evolves under the influence of maturing cognitive (mental) functions and socially meaningful activity in the zone of proximal development. I will also point out and discuss how imitative modelling and personal mental-emotional experience contribute to child's meaning making.

3.1. Child's development from a cognitive perspective

3.1.1. The concept of meaning

The study of the development of meanings in the course of child's development constituted one of Vygotsky's greatest experimental tasks, together with the comparative study of everyday spontaneous and academic concepts (Vygotsky, 1934/2012, p.4). Vygotsky understood meaning as an internal side of a sign (word) (Vygotsky, 1934/2012, p.12). He writes: "meaning is an indispensable part of a word as such, it belongs to the sphere of speech to the same extent as it belongs to the sphere of thought" (Vygotsky, 1934/2012, p.13). Meaning has its own structure and tends to be fixed by a sign. Moreover, "thought is not reflected by a word, it is created in a word, that is what meaning is" (Vygotsky 1934/2012, p.294, p.296, p.347). Vygotsky explains:

> Meaning is the path from a thought to a word. It is not the sum of all the psychological operations that lie behind the meanings of words, it is something more specific - it is the internal structure of a sign operation. (in Hanfmann et al., 2012, p. 209)

Vygotsky specifies that "meaning contains generalized reality", i.e. meaning is not equalled to a particular referent, it arises as a result of generalization of the knowledge about the referent (Vygotsky 1934/2012, p.12). I understand it in the following way: once the referent is nominated, it is included into communication and here begins the process of generalization (conceptualization) and once this process is complete, there arises the meaning of the word. Vygotsky explains that a word does not refer to a separate object, but to a group or a class of objects. Therefore, "every word is an implicit generalization, thus, from a psychological perspective, the meaning of a word is a generalization" (Vygotsky 1934/2012, p.12). He maintains that "generalization is an extraordinary verbal act of thought, reflecting the reality in a totally different way than it is reflected in immediate sensations and perceptions" (p.12). Vygotsky clarifies it by saying that "generalization occurs as a synthesis of thoughts, but not by way of including the perceived objects into groups" (Vygotsky 1934/2012, p.267). Here, he

seems to come to an important point that "the highest human forms of psychological communication are possible because a human reflects the reality in a generalized way with the help of thinking" (Vygotsky, 1934/2012, p.14) and that this generalization becomes possible in the course of verbal communication between people (Vygotsky, 1934/2012, p.13). From this it becomes clear that Vygotsky considers meaning making as a process occurring "as a unity of generalization and communion, communication and thinking" (Vygotsky, 1934/2012, p.15).

3.1.2. Developmental approach and mental functions

The essence of child's development, according to Vygotsky, can be apprehended only through a study of its origin and history. For that reason, he applies the term 'development' to both the individual (ontogenetic) and the cultural-historic (phylogenetic) evolution of mental functions. He suggests that "the new developmental approach must be built upon three concepts: higher mental functions, cultural development, and mastering one's own behavioral processes" (Kozulin, 1986, pp. xliv- xliv).

The core idea of this approach is that connections and relations between mental functions, including language and thought, do not remain constant. The process of development does not only depend on the changes which mental functions undergo, but rather on the changes in the relations between mental functions. In the process of child development, "one observes everywhere what is called the change in inter-functional connections and relations" (Vygotsky, 1982, p.379). These relations between mental functions Vygotsky called 'psychological' (mental or cognitive) systems. Each stage of child's development is characterized by its own combination of higher mental functions in psychological systems (Vygotsky, 1982, p.379). Importantly, language and thinking are the two higher mental functions which are decisive in the establishment of inter-functional systemic unity (Kozulin, 1986, p. xlvii), and only with the establishment of the latter "thinking becomes verbal and speech becomes intellectual" (Vygotsky, 1934/2012, p.96).

Vygotsky does not give a definition of a mental function (a 'psychological function' in his terms). However, from his description it seems to follow that mental functions refer to the basic ways of learning and responding to the environment for the purpose of survival (Vygotsky, 1982). Mental functions are cognitive processes, like memory, perception, thinking and language. Vygotsky differentiates between two kinds of processes or functions: mental functions and higher mental functions. Vygotsky (1983a) writes:

> Each function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological). (p.145)

A child is equipped with built-in mental abilities which develop in the course of acquiring experiences in environment, society and culture and which finally are internalized and become part of individual's consciousness (Vygotsky, 1983a). This is an important idea, later elaborated by Bruner (1986), which I come back to in subsection 5.2.

Higher mental functions do not occur spontaneously and without prompting. Vygotsky especially emphasizes this idea and develops in chapters 5 and 6 of his 'Thought and Language' (Vygotsky, 1934/2012). Higher mental functions emerge in the process of joint socially meaningful activity of children and adults (Vygotsky, 1934/2012). Summarizing this idea of Vygotsky, Kozulin (1986) explains that "the function that at a certain point in time "belongs" jointly to the child and the adult then becomes appropriated and internalized by the child, becoming his or her inner psychological function" (p. xx).

Higher mental functions are the result of cognitive maturing, when they acquire a voluntary and conscious character. In early childhood there dominates perception in the system of inter-functional relations. At pre-school age memory becomes the dominant central function. The interrelation of the two of them is the main prerequisite for the psychological development of a child and the basis for the appearance of attention (Vygotsky, 1934/2012, p.208). Attention allows structuring of the perceived information in accordance with what is already memorized (Vygotsky 1934/2012, p.208). When attention appears at school age, the character of the functions changes: they become voluntary and transform into higher mental functions due to child's awareness of his or her intellectual resources. However, cognitive development is not the only factor impacting this transition. The learning process through formal schooling or informal collaboration between children and adults must not be underestimated. Children and adults experience the same situation and make joint meaning of this shared experience, as a result a child re-creates adults' mode of behaviour as his/her own (imitative modelling) (Vygotsky 1934/2012, p.207) (more on this in 3.2.3.).

Besides, there are two other elements which contribute to child's meaning making: personal mental-emotional experience of a child and occurrence of an emerging mental function in the zone of proximal development. I will turn to the explanation of these elements in the corresponding subsections below.

3.1.3. Perception and memory

In the next two subsections I will focus on the mental functions discussed by Vygotsky with regard to development of psychological systems in child's consciousness: perception, memory, thinking and language.

Perception is a mental function which occurs first when a child is born, and which triggers the initial meaning making process. Even at this initial stage, not possessing language, a child is capable of making meaning. Adults around a child name objects and phenomena, thus sharing this experience with a child. Vygotsky (1982) writes:

> Understanding of an object, nomination of an object is given together with its perception, and as some special research shows, the perception of some objective sides of an object depends on the meaning, on the sense which accompanies perception. (p.372)

Perception, originating in the right hemisphere of the brain and nomination, stimulating the left hemisphere, occur simultaneously and create a necessary basis for comprehension, i.e. meaning making. Perception is inseparable from comprehension. Vygotsky (1982) observes: "Experiments show that it is almost impossible to create such circumstances that our perception would be separated functionally from comprehension of the perceived object" (p.372). Describing an experiment conducted by Rorshach, when children were asked to describe a number of senseless symmetrical figures, Vygotsky comes to a conclusion that our comprehension of the figures varies but the tendency to ascribe meaning to figures (nominating them as a butterfly, a lamp, a tree) is always present (Vygotsky,1982, p.373).

Children do not perceive the world chaotically, but in terms of certain patterns or categories (Vygotsky, 1982, p.375). Vygotsky does not suggest any definition of such patterns, neither does he provide us with a description of what these structures are like and how they function. However, his idea that meaning making (or comprehension in terms of generalizations) and categorical perception go hand in hand, has found its way into a number of cognitive theories describing meaning making in terms of patterns (cf. Lakoff & Johnson, 2003; Beck, 1995, Gee 1999: 52). Vygotsky (1982) observes:

> On the basis of the experimental data, we know that perception already in the early stages is characterized by structure and integrity, and that perception of the whole is prior to the perception of the parts. (p. 376)

This idea deserves a special emphasis. An infant perceives the world around as a whole, gradually starting to distinguish separate details and features in this whole. Vygotsky (1982) explains: "Everywhere, an infant's perception, not mentioning an elder child, will always be determined by holistic situations" (p.377). Lacking the language, an infant memorizes the situations in all their complexity, i.e. "in the process of child's development there evolves a connection between the function of perception and the function of eidetic memory, and there appears a new single whole, in the structure of which perception is its inner part" (Vygotsky, 1982, p.379).

Since language is not yet developed at such an early age, perception is mediated through nomination by an adult. It is not excluded then that naming certain objects, an adult draws an infant's attention to some parts of a holistic situation and thus stimulates visual thinking in terms of words. Vygotsky (1982) maintains, "experience shows that here occurs the connection between speech or word and perception, that the usual way of perception changes, and we begin to consider perception through speech, when a child does not only perceive but tells about the perceived" (p.380). Moreover, Vygotsky lays emphasis to the appearance of meaning in this process. It seems possible to render his idea as follows: visual thinking and perception merge, and this fusion is such that we are unable to differentiate between categorical perception and immediate perception, i.e. when immediately perceiving an object, children categorize it simultaneously and as a result a generalized meaning arises (Vygotsky, 1982, p.369).

With this, Vygotsky demonstrates that inter-functional connections change because of the appearance and development of new functions, creating new systems of mental functions, and these psychological systems are parts of the complex development of the consciousness where meaning making constitutes its core (Vygotsky, 1982, p.380).

Another mental function actively participating in meaning making is memory**.** It has already been mentioned that eidetic memory occurs rather early as a necessary stage in the evolution of infant's comprehension. Memory in early age is one of the central mental functions, all other functions develop depending of memory. Vygotsky's analysis shows that child's thinking at early stages depends a lot on memory: to think for a child in early years means to recollect, i.e. to base oneself on his/her experience (Vygotsky, 1982, p.392).

Interestingly, according to Vygotsky (1982), memorizing one's own actions and memorizing images obeys different laws. Interrupted unfinished actions are memorized better than accomplished, and vice versa unfinished visual images are memorized worse than

accomplished (p.395). Vygotsky does not explain it further and I suggest interpreting it as follows: an incomplete visual image seems to appear meaningless for a child and therefore is not memorized. At the same time, it seems that children remember that they were interrupted in their meaning making process when they do something and this fact gives meaning to the whole situation. An action is perceived as a structured sequence of elements (a pattern) and therefore, the strive to complete the structure results in memorizing. With reference to Levin's experiments, Vygotsky concludes that senseless material is memorized only because there appears a structure (a pattern) in the mass of elements, which demonstrates meaningful connections between the parts (Vygotsky, 1982, p.388-389). Vygotsky (1982) clarifies: "the success of one's memory depends on what pattern the material forms in one's consciousness" (p.388). I suggest interpreting this Vygotsky's idea as follows: human mind is tuned both to recognize patterns and build patterns.

3.1.4. Thinking and language

Vygotsky's theory encompasses all mental functions but "Vygotsky himself was primarily interested in the development of language in its relation to thought" (Kozulin, 1986, p.xlv). Vygotsky (1934/2012) regards "the issue of thinking and language as a key problem of human psychology" (p.5). In his research Vygotsky considers language and thought as complimentary parts of one and the same process – meaning making, therefore it is rather difficult to examine his understanding of thinking and language irrespective of each other.

Language was always the focus of Vygotsky's research. What drew Vygotsky's attention was language's double role. Language is a psychological tool shaping other mental functions, and at the same time it is a mental function itself undergoing its own development (Kozulin, 1986, p. xlv).

Thinking and language do not arise simultaneously. Vygotsky's main idea is that "thought and speech have different genetic roots" (Vygotsky, 1934/2012, p.83), and that "the curves of their development converge and diverge repeatedly, cross each other, align at times and go parallelly, even merge in some parts, and then separate again" (Vygotsky, 1934/2012, p.82). Relations between thinking and language are never constant, "their development occurs according to different routes and independently from one another" (Vygotsky, 1934/2012, p.94). In the phylogenesis and ontogenesis of thinking and speech, one can "undoubtedly distinguish pre-language phase in mental development and pre-intellectual phase in speech development" (Vygotsky, 1934/ 2012, p.95, p.98).

Language first appears as a means of communication and then nomination. This stage of its development Vygotsky (1982) describes as follows:

> A child always begins with pronunciation of separate words; these words are nouns in the beginning of development; later nouns are combined with verbs – there appear the so-called binomial sentences. In the third stage, there appear adjectives, and, finally, when supplied with a certain storage of phrases – a story with the description of pictures. This means that the sequence of the stages does not refer to the sequence of perception stages, but rather to the sequence of stages in speech development. (p. 378)

Thinking and language become increasingly interdependent in the first few years of life and by the second year of life they become interwoven (Vygotsky, 1934/2012, p.96). As a result, "speech becomes intellectual while thinking becomes verbal" (Vygotsky, 1934/2012, p.96). When thinking and language merge, the result is the appearance of verbal thinking. Vygotsky distinguishes two formal criteria in language development that characterize this "leap": widening of the vocabulary because a child asks about the name of every new thing and a very fast intermittent increase of the vocabulary (Vygotsky, 1934/2012, p.96). Verbal thinking is "the unity of language and thinking that retains all the properties that belong to speech and thought as a single process" (Vygotsky, 1991, p.413). Vygotsky regarded the appearance of verbal thinking as the point in child's development when meaning making becomes possible, therefore, it will be necessary to examine this ability in more detail.

Verbal thinking arises gradually and undergoes several stages. The driving force of this process is the change of the vector in language's functioning. At the outset, language aims outwards and is used by a child as a means of nomination and communication – in its social function (Vygotsky, 1934/2012, p.50), then language turns to the speaker and is used in child's communication with himself or herself, i.e. aims inwards (Vygotsky, 1934/2012, p.45). Elaborating on Vygotsky's idea, Leontiev (2014) clarifies: "language is initially oriented outwards and only then turning to oneself, i.e. it becomes the means of coordinating of one's own mental processes" (p.12).

Attracted by Paget's research, Vygotsky turned his attention to the phenomenon of 'egocentric speech' of a child (Vygotsky, 1934/2012, pp.37-49). His experiments, however, led to different conclusions (Vygotsky, 1934/2012, pp.49-56). According to Vygotsky, speech, as a psychological tool, mediates thinking at the stage of practical activity (Vygotsky, 1934/2012, p.44). Indeed, children often talk to themselves and about themselves in the third person singular when carrying out some everyday activity or play (Vygotsky, 1934/2012, p.44, p.51).

Vygotsky called it 'private speech', turning to a thorough discussion of it in chapter 2 and 7 in his 'Thought and Language'. Private speech which is not directed at any listener, "was interpreted by Vygotsky as an important developmental tool leading a child toward self-regulation and voiceless verbal thinking" (Kozulin, 2012, pp. xv-xvi). Vygotsky (9134/2012) concludes, "private speech emerges on a social basis by way of transferring by a child of social forms of behaviour, forms of collective cooperation into the sphere of private psychological functions" (p.50).

Egocentric speech does not die out, as Piaget suggested, private speech becomes internalized into inner speech – the means of self-guidance (Vygotsky, 1934/2012, p.45, p.47). Inner speech is silent, it is a speech for oneself, it serves the function to connect the outer reality with the inner world of a person (Vygotsky, 1934/2012, p.46). Inner speech is structurally different from social speech: it is understandable only for the speaker, it is reduced and has gaps (Vygotsky, 1934/2012, pp.46-47). When child's speech accompanies his or her activity, it becomes thinking, "i.e. takes upon itself the function of a planner of an operation, solution of a new task arising in a child's behaviour" (Vygotsky, 1934/2012, p.100). It seems possible to assume that in this function, inner speech becomes a tool creating a scenario for one's actions, thus anchoring or shaping the meaning for a certain life situation. Interpreting Vygotsky's writings on inner speech, Kozulin (1986) observes:

> Inner speech is not an internal aspect of talking; it is a function in itself. It remains however a form of speech, that is thought connected with words. But while in external speech thought is embodied in words, in inner speech words must sublimate in order to bring forth a thought. In inner speech two important processes are interwoven: the transition from external communication to inner dialogue and the expression of intimate thoughts in linguistic form, thus making them communicative. Inner speech becomes a psychological interface between, on the one hand, culturally sanctioned symbolic systems and, on the other hand, private "language" and imagery. The concretization of psychological activity in this context appears as a psychological mechanism for creating new symbols and word senses capable of eventually being incorporated into cultural stock. (p. liii)

Private speech phenomenon has also been studied by some post-Vygotskians and has got a name of "crib speech phenomenon" (e.g. Berk, 2001). This research has developed into a vast area of studies on the relationship between different forms of verbalization and the cognitive

processes involved in executive functions (inter alia, self-regulation, and problem solving) (Winser, Fernyhough, & Montero, 2009).

It has been proved that crib speech is not a by-product of the child's immaturity, but it is "an important mechanism for the consolidation of children's experiences, language practice, and acquisition of such social communication forms as dialogue" (Kozulin, 2012, p. xvi). Experiments show that "crib speech is often much richer than the daytime communicative speech of the same child, and as such provides a glimpse into the child's future development" (Kozulin, 2012, p. xvi). It has been established that children progressing faster from private to inner speech also showed better sustained attention and were less distractible. On the contrary, children with learning problems often display self-talking that is not tasks' related. They can chant, repeat, use non-guiding comments for a longer developmental period than children without learning problems (Winser, Fernyhough, & Montero, 2009).

To summarize, so far, I have discussed the evolution of mental functions and their collaboration in changing psychological systems of a child. The appearance of verbal thinking is an important milestone in the establishment of child meaning making. When private speech appears, language becomes an instrument of self-guidance, and with the appearance of inner speech meaning making becomes self-regulated.

3.1.5. Everyday spontaneous and academic concepts

3.1.5.1. The development of everyday spontaneous concepts

Yet another issue which interested Vygotsky was the conceptual systems arising as a result of meaning making and structuring the human mind in certain ways. He discussed this issue in several works but the most thorough and substantial description of his experimental research can be found in chapters 5 and 6 in 'Thought and Language' (Vygotsky, 1934/2012). He focuses on the emergence of conceptual systems, instead of describing the final product of their evolution. The latter approach he considers to be a mistake because "when studying the definitions that a child gives to a concept, we rather study a child's knowledge, the extent of his language development, than thinking as such" (Vygotsky, 1934/2012, p.111). In other words, Vygotsky was rather interested in the process of meaning making than the principles of organization of conceptual systems, and, thus, he included into his research both "the sensual material and the word" (Vygotsky, 1934/2012, p.111), i.e. peculiarities of child's cognitive and cultural maturing and child's language development.

Vygotsky differentiated between two types of concepts: everyday (spontaneous) and academic (scientific). The former appear as a result of child's own experience in the outer world, while

the latter arise due to a deliberate instructional activity of an adult in the zone proximal development of a child and only then when the relevant brain structures are mature enough. Vygotsky (1934/2012) formulates a law of the emergence of concepts:

> the development of processes leading to emergence of concepts goes far back to childhood, but only in transitional age (Vygotsky means adolescence here – MM) there mature and develop those intellectual functions which form a psychological basis for conceptual systems. Only when a child turns to an adolescent, a decisive transition to thinking in terms of concepts becomes possible. (p. 123)

Another important issue in focus of Vygotsky's research is how concepts appear, what is crucial for their emergence in child's consciousness. First of all, concepts do not appear "as a result of memorization", it is necessary that a child comes across or gets a socially meaningful task and "this task is impossible to solve without forming a concept" (Vygotsky, 1934/2012, p.115, p.125). The second prerequisite is that a child uses "the sign (or word) functionally (consciously and voluntary – MM) as a means of subordination to one's will of one's own psychological operations" and, thus, "directs these processes to the solution of a socially meaningful task" (Vygotsky, 1934/2012, p.124). This point needs some clarification, in my opinion. What Vygotsky seems to say here is that a word or sign serves the function of 'a knot', like the one we tie on a handkerchief to remember something. Tying this knot, a child consciously concentrates on a task, synthesizing "associations, attention, mental presentation, judgement, determination etc." in order to form a concept (Vygotsky, 1934/2012, p.124).

Vygotsky distinguishes several stages in the process of emergence of concepts. The first stage in early age is when a child unities objects or phenomena in diffusive unsystematic groups without realizing the criterion of this unification. This unification is based on associations, similarity, syncretic chain etc. If it concerns particular objects of the outer reality, it can happen that meanings will coincide with those of adults (Vygotsky, 1934/2012, pp.128-129). The second stage is called the formation of complexes (Vygotsky, 1934/2012, p.130). At this stage, a child stops thinking syncretically, his or her own personal association do not longer serve the basis for unification of phenomena into certain groups (Vygotsky, 1934/2012, p.131).

The complexes are rather "family groups" based on actual, not abstract or associative, connections between the objects of a complex (Vygotsky, 1934/2012, p.132). For children with

special needs[8], especially those who have language problems, these complexes or collections of complexes remain the main mode of conceptualization and play a huge role (Vygotsky, 1934/2012, p.135). Complex thinking is complicated and undergoes different substages: simple complexes, hierarchical complexes, complexes-collections, functional complexes, diffusive complexes and finally pseudo-concepts (Vygotsky, 1934/2012, pp.131-146). This is a task in itself to describe Vygotsky's differentiation between these substages of complex thinking. This differentiation certainly has a great significance for the research aimed at the study of cognitive abilities of a child. Despite its relevance for meaning-making, it goes into details which do not constitute the objective of this thesis and thus, I have chosen to avoid a thorough description of this issue. More importantly, it is necessary to explain what is the main difference between child's complex thinking and adolescent's conceptual thinking.

Child's words coincide with words of an adult in their objective reference, i.e. "they point to the same objects and to the same range of phenomena. But they do not coincide in the meaning" (Vygotsky, 1934/2012, p.154). A child realizes the content of meaning in a different way, although similarly, and due to this similarity communication becomes possible (Vygotsky, 1934/2012, p.154). An adult and a child point to the same object but mentally differently: a child names an object, while an adult thinks about it and realizes its meaning (Vygotsky, 1934/2012, p.157). A child regards the connections between his or her perceptions of objects or phenomena as meanings, while in fact it is not the phenomena but the perceptions that are connected in a created meaning (Vygotsky, 1934/2012, p.275). Adolescent and adult's thinking implies isolation of certain features of a phenomenon or thing, comprehending them in an abstract way, due to which other non-relevant features remain in the periphery of a concept (Vygotsky, 1934/2012, pp.160-162).

This is a very important issue for the understanding of child's meaning making: child's meaning making is always situationally and specifically conditioned and relies on generalizations of perceptions. A child cannot isolate important and significant for him or for her features of the phenomenon of which meaning is made. Thus, a child must rely on common sense and world knowledge (cf. Bruner's folk psychology). Meaning does not occur, it is constructed. Immature cognitive processes of a child cannot contribute to meaning making to full extent. The final product of child's meaning making is similar to the one of an adult (Vygotsky, 1934/2012,

[8] Vygotsky does not specify what diagnoses encompass his notion of "neuro- and mental patients". It should be mentioned that the classification of mental disorders was different at his time. From his research in defectology, where he describes certain cases, it becomes clear that these patients seemed to have ADHD/ADD, SLD, OCD, ASD, ADD, schizophrenia, epilepsy etc. (Vygotsky 1983).

pp.143-144) because a child internalizes meanings already given in the speech of an adult (Vygotsky, 1934/2012, p.145). Thus, the impact of social and cultural context for meaning making is difficult to underestimate. Folk theories turn to become central for the development of meaning making in children (more on this in 5.3.).

3.1.5.2. The development of academic concepts

So far, I have described the appearance of everyday (spontaneous) concepts which are not exactly the same as concepts of an adult. Adolescence is the transitional period when thinking undergoes a crisis and becomes mature (Vygotsky, 1934/2012, p.167). This period embodies the transition to the formation of true concepts. A decisive role in true concepts' formation belongs to language. A word directs attention to certain features of a phenomenon, "with the help of a word a child synthesizes these features, with the help of a word a child symbolizes the abstract and operates with a word as a sign" (Vygotsky, 1934/2012, p.165).

Complex thinking of a child "is not ousted by conceptual thinking, they exist together" (Vygotsky, 1934/ 2012, p.167). These forms of thinking "co-exist as there co-exist layers from different geological epochs in the Earth's crust" (Vygotsky, 1934/2012, p.167). Everyday and academic concepts "are not separated from each other by an impenetrable wall, do not flow through isolated channels, but undergo the process of continuous interaction" (Vygotsky, 1934/2012, p.190). Importantly, both everyday and academic concepts comply with the single set of laws of concept formation based on generalization (Vygotsky 1934/2012, p.190, p.249). Academic concepts rely on everyday concepts exactly in the same way as a foreign language relies on the semantics of a native language (Vygotsky, 1934/2012, p.195). What makes them different is the motive of their acquisition: everyday concepts arise spontaneously urged by the necessity to solve a task in a socially meaningful practical activity, while academic concepts arise in an instructional setting in the process of formal schooling (Vygotsky, 1934/2012, p.191). The mode of their acquisition is also different: acquisition of an academic concept begins with an understanding of a verbal definition of the given concept and implies a voluntary application of this concept (Vygotsky, 1934/2012, p.250).

From a cognitive perspective, emergence of academic concepts becomes possible due to the change in the character of mental functions: in adolescence a teenager acquires higher mental functions of voluntary attention and logic memory (Vygotsky, 1934/2012, p.205; Vygotsky, 1982). Vygotsky clarifies that "voluntary character of a function is the downside of its awareness" or "intellectualization" (Vygotsky, 1934/2012, p.205). Awareness comes through acquisition of academic concepts (Vygotsky, 1934/2012, p.210) and is a synonym of

systematicity (Vygotsky, 1934/2012, p.211). It means that "awareness of one's concepts comes through constructing of conceptual systems, based on some relations of commonness" (Vygotsky, 1934/2012, p.214).

Another prerequisite for the emergence of academic concepts is a child-adult cooperation in the educational instructional setting in the zone of proximal development of a child (Vygotsky, 1934/2012, p.178). However, examination of this issue proceeds to the sphere of child's development viewed from a social-cultural perspective and will be regarded in the next section.

Vygotsky's ideas have later been elaborated within both the cognitivist and the social constructivist approaches. Cognitivists explore the principles of conceptual organization of human mind and the basis for concepts to arise. Vygotsky does not explain what conceptual bonds require for a concept to appear, neither does he explain how concepts interact in thinking. This lack of research has made me look into Lakoff and Johnson's theory of cognitive metaphor (chapter 4). Vygotsky pays tribute to the significance of everyday (spontaneous) concepts in child's development, but he does not explain how these 'folk theories'/everyday concepts are stored and function in a child's brain and what happens if deviations occur. Therefore, this lack of information has led me to an idea to study Bruner's folk psychology and significance of narrative, especially for pedagogical purposes (chapter 5).

3.2. Child's development from a social-cultural perspective

Constructivists assert that children's concepts are constructed rather than transmitted and a teacher has a certain role in the process of meaning making. This idea comes from Vygotsky's view on a social-cultural development of a child. There is no consensus between constructivists on the role of a teacher. Independence of children in the learning process is claimed by radical constructivists, therefore, scientific misconceptions is quite a normal outcome in the learning process. Others underline a teacher's special role in the conceptual change (Kozulin, 2012, p.xix). This discussion leads us naturally to the issue of mediated learning and socially meaningful activities., i.e. social-cultural approach to child's development.

3.2.1. Child's socially meaningful activity and learning

Cognitive processes do not arise by themselves but only out of social contexts where children are immediate participants of social activities. Higher mental functions develop in the course of children's social interaction with either their peers or adults. Vygotsky was of the view that socially meaningful activities make children capable of interpreting the world, making meanings and, moreover, allow children to extract the psychological (cognitive) tools from their society and culture and use them for the purposes of their individual meaning making

(instrumentalism) (Vygotsky, 1991). Vygotsky proposed the view that social activities evolve into mental activities as a result of internalization[9]. Vygotsky (1979) writes:

> the mechanisms of social behavior and the mechanisms of consciousness are the same…. We are aware of ourselves, for we are aware of others, and in the same way as we know others; and this is as it is because in relation to ourselves we are in the same (position) as others are to us. (pp.29-30)

The concept of socially meaningful activity (Tätigkeit) was proposed by Vygotsky as a generator of consciousness, because an individual's consciousness is built from outside through relations with others (Kozulin, 1986, p. xxxviii). Vygotsky explains that 'a socially meaningful activity' does not necessarily presuppose some work being done or activity aiming at some product or a learning situation. Children's main activity is exploring the world through game and play, or simply through practical tasks of eating, watching, listening etc. (Elkonin, 1978).

Play allows children to cognitively and emotionally disclose themselves. While playing, children try on different roles, step beyond the limits of the world of a child. Acting like adults, they expand their repertoire of social, emotional and cognitive skills and abilities (Elkonin, 1978). In Vygotsky's words, "in play a child always behaves beyond his average age, above his daily behavior; in play it is as though he were a head taller than himself" (in Elkonin, 1978, p.102). At a later stage, when participating in organized games, children learn to follow established rules. They learn to adjust themselves to restrictions, anticipate and plan ahead, and acquire self-command. These are the skills crucial for successful participation in the adult world.

Learning is a socially meaningful activity with adult participation. Vygotsky was of the view that through both formal teaching and informal conversations, adults reveal to children the modes which their culture employs to interpret the world – cultural tools (Vygotsky, 1991). In higher mental functions adults share meanings of certain phenomena, thus, providing children with cognitive tools to construct academic concepts. The general term which has been applied in subsequent research to such socially meaningful activities with adult participation is 'mediation' or 'mediated learning'.

[9] This idea of Vygotsky was elaborated by a post-Vygtoskian M. Tomasello in his most interesting book 'The cultural origins of human cognition' (Tomasello, 1990).

Some scholars maintain that when adults help children to attach meaning to phenomena, they actually make the meaning of a certain situation common for both a child and an adult. This interaction in meaning making is known as mediated learning experience. It encourages a child to muse on life situations and create meanings out of them (Feuerstein, Klein, & Tannenbaum, 1999; Kozulin & Presseisen, 1995).

A well-known concept of scaffolding has aroused from Vygotsky's assertion that children accomplish tasks easier and faster with the help of an adult in the zone of proximal development. Scaffolding is a range of supportive techniques used in an instructional context. I will mention just some of them which have come to my knowledge via the study of relevant literature in post -Vygotskian research: prompting, a model of the correct performance of a task, division of a complex task into smaller units, a structured set of guidelines for a task's performance, a technical device or technology making a task manageable, shared (common) focus on relevant aspects of a task, asking guiding questions, frequent feedback on a child's progress (Øzerk & Øzerk, 2013; Tharp & Gallimore, 1991; Rogoff, 1990; Wood, Bruner, & Ross, 1976). This is not a task for the present thesis to make an analysis of these scaffolding methods in mediated learning. Vygotsky's theory enhances several important concepts crucial for successful scaffolding. I have chosen to shed light on the three of them: the zone of proximal development, imitative modelling, and personal mental-emotional experience. These three concepts drew my attention for a certain reason. The zone of proximal development has got a substantial interpretation and elaboration in subsequent research due to its centrality for Vygotsky's theory. For this same reason, the zone of proximal development is included into my thesis, however rather for the purpose to support examination of the other two concepts. The other two concepts are less known to a wider readership and this novelty makes them especially attractive for research and valuable for examination in the present thesis: imitative modelling and personal mental-emotional experience.

3.2.2. The zone of proximal development

The zone of proximal development has been studied and applied a lot, it seems to be a well-known construction. Therefore, I will not give a thorough description of it here in order to focus on more relevant issues related to it and important for the purposes of the present thesis.

Vygotsky distinguishes between two ability levels characterizing child's skills at a certain point in development. The first one characterizes the developmental level at which a child is capable of performing a task on his or her own without any support from an adult. The second level

characterizes a child's potential sphere of abilities which only emerges and can be developed via scaffolding. Vygotsky (1934/2012) explains:

> The discrepancy between an intellectual age or the level of actual development, which is determined by independently solved tasks, and the level achieved by a child not independently but through cooperation – constitutes the zone of proximal development. (p.237)

The zone of actual development is usually the zone which is tested at examinations at school, however this is the zone of proximal development which is significant for child's successful intellectual development (Vygotsky, 1934/2012, p.237). What a child can do "in cooperation today becomes the zone of actual development tomorrow" (Vygotsky, 1934/2012, p.240).

The zone of proximal development is the area where adults provoke a child to solve tasks not yet mastered by him or her. When challenging a child, adults promote his or her cognitive growth. These challenging tasks must be, on the one hand, clear for a child and, on the other hand, manageable with adults' assistance (Vygotsky, 1934/2012, p.240), otherwise meaning making fails. If a child-adult cooperation is successful, the final product of it "is a solution, which, being internalized, becomes an integral part of the child's own reasoning" (Kozulin, 1986, p. l).

The description of levels and tasks of the zone of proximal development will be meaningless and superfluous without discussion of its content. 'Podrazhanie' (in Russian: 'подражание', podrazhanie) constitutes the content of the zone of proximal development (Vygotsky, 1934/2012, p. 240). I proceed with the description of it in the next subsection.

3.2.3. Imitative modelling (podrazhanie)

When cooperating with an adult in the zone of proximal development, children don't learn by coping-pasting knowledge and experience, they rather mold things according to a suggested model. Such learning does not presuppose imitation because its purpose is internalization by a child of meanings (cognitive tools) and strategies of one's culture (cultural tools) for child's own use. This way of learning, Vygotsky called 'podrazhanie'. Vygotsky (1966) writes:

> All that a child cannot accomplish on his own, but what he can learn or can perform under guidance or in collaboration with the help of suggestive questions or assistance provided at a difficult point, refers us to the domain of 'podrazhanie'. (p.204)

He attaches significance to this concept by saying that 'podrazhanie' is "the main form of human development impacted by learning" (Vygotsky 1934/2012, p. 240). It is difficult to

translate the term from Russian. ‘Podrazhanie’ is translated as ‘imitation’ (подражание, n.d.), but this is exactly what Vygotsky (1934/2012) warns us against:

> There has established a view on podrazhanie in former psychology and in everyday consciousness regarding it as purely mechanistic activity. From this point of view, it is not indicative if a child solves a task not independently, it is not significant for child’s own intellectual development. It is assumed that one can imitate everything, whatsoever… This view is false though and through. (pp.237-238)

Mechanistic imitation and ‘podrazhanie’ must be differentiated for an important reason. Imitation implies repetition and copying, it does not presuppose internalization of the learnt meaning. ‘Podrazhanie’ is the driving force for learning, it brings a child to another level in his or her development (Vygotsky, 1934/2012, p.239). Vygotsky clarifies that ‘podrazhanie’ is “the source of all new features of child’s consciousness” (Vygotsky, 1934/2012, p.239). Learning is only then possible if a child is given an opportunity for ‘podrazhanie’ (Vygotsky, 1934/2012, p.240).

Vygotsky proposes a constructivist approach to it: ‘podrazhanie’ – is rather internalization of somebody else’s model of behaviour or meaning through the prism of personal mental-emotional experience (‘perezhivanie’ – in Vygotsky’s terms) and recreation of someone’s model of behaviour or meaningful life strategy as one’s own (Vygotsky, 1934/2012, p.247). Moreover, a child can ‘podrazhat’ only something which is within his or her intellectual capacities. One cannot recreate a chess game if one has never played chess, even if a chess grandmaster shows one how to do it. To be able to ‘podrazhat’, one needs to have a possibility to transit from what one can do to what one cannot yet do (Vygotsky, 1934/2012, p.238). Thus, recreation of somebody’s model of behaviour is possible only within the zone of proximal development (Vygotsky, 1934/2012, p.238). Therefore, it seems possible to deduce a few prerequisites for ‘podrazhanie’ from Vygotsky’s description: internalization of somebody’s knowledge and experience, re-creation of somebody’s model as one’s own, occurring through ‘perezhivanie’ (personal mental-emotional experience), and taking place within the zone of proximal development (more on that also in 5.4. and 5.5.). Thus, in an attempt to reveal the essence of the concept, I take the courage to translate ‘podrazhanie’ as ‘imitative modelling’.

Vygotsky’s ‘podrazhanie’ is an undeservedly forgotten idea. Focus in the follow-up studies and subsequent research was either on the zone of proximal development (ZPD) or scaffolding. They are the indispensable constituents of imitative modelling because imitative modelling

occurs in the zone of proximal development and becomes effective via instructional scaffolding. It may seem, that imitative modelling can be equalled to scaffolding, but I would rather disagree on that. The reason for my scepticism is that scaffolding lacks an important personal mental-emotional aspect of meaning making –personal mental-emotional experience ('perezhivanie' – in Vygotsky's terms). Imitative modelling is successful only if a child perceives the suggested challenging task as necessary for personal reasons (perceives it as meaningful), makes a conscious effort to solve it and becomes mentally and emotionally involved into its solution. All this results in the formation of a concept. Having said this, I now proceed with the examination of the concept 'perezhivanie'.

3.2.4. Personal mental-emotional experience (perezhivanie)

Despite his obvious interest in cognitive, social-cultural and language development of a child, Vygotsky did not disregard the importance of volitional-emotional sphere of a child and its impact on comprehension and learning (Vygotsky, 1933/2013; Vygotsky, 1991, pp.416-436). From his notes it seems to follow that he regretted not elaborating on these issues more in his previous works, and his plan was to continue research in this area (Vygotsky, 1934/2012, p.344). Vygotsky emphasizes that thought and meaning do not originate from another thought, rather they come from a volitional-emotional sphere of one's consciousness. Vygotsky calls this volitional-emotional sphere – 'motivational'. According to him it encompasses an individual's interests, attitudes, assessments, volitions, intentions, endeavors, feelings and emotions. Only this motivational sphere can give answers to the main question – why meaning is made (Vygotsky, 1934/2012, p.344).

How does the motivational sphere participate in meaning making? There is no clear answer to this question in Vygotsky's theory. However, a careful analysis of somewhat disjointed statements and descriptions in Vygotsky's works, allows to propose the following answer. The meaning of a situation is made for the reason that a child gets personally involved in the solution of a socially meaningful task. It presupposes awareness of the situation, a conscious effort to form a concept (mental involvement) and emotional engagement. In this regard, Vygotsky refers to 'perezhivanie' (переживание), which I have found a difficult term for translation. 'Perezhivanie' is translated as 'experience' (переживание, n.d.). Nevertheless, taking into consideration that this experience concerns both mental involvement and emotional engagement, I have taken the courage to translate it as 'personal mental-emotional experience'.

Vygotsky (1966) describes it in the following way: personal mental-emotional experience (perezhivanie) is an internal attitude of a child or an adult to a moment of reality. It is not the

moment of reality as such, taken irrespective of a child, which matters, but the moment refracted through personal emotional experience of a child, determining how this particular moment will influence the course of further development of a child (pp.76-77).

It has been demonstrated in the previous subsections that Vygotsky regarded meaning making as a process of comprehension of the outer realty, where meaning results from processing of one's perceptions by a certain system of cognitive functions (cognitivism) in a social verbal intercourse between a child and an adult (social constructivism). However, meaning is construed only if a child attaches personal significance to a situation via mental and emotional involvement. An emotional involvement can either be viewed as an emotional reaction, occurring in a critical situation when a child needs to adjust himself or herself to a changed reality (Vygotsky, 1991, p.135), or a mental-emotional imprint of a moment of reality in a child's consciousness (Vygotsky, 1966, p.77). In the latter case, one deals with a personal mental-emotional experience which anchors meaning in one's consciousness.

To emphasize the difference between emotional reactions and personal mental-emotional experiences, I would suggest understanding them in terms of consequences for meaning making. Emotional reactions "have the role of the organizers of our behavior" (Vygotsky, 1991, p.137), i.e. they are either a call for actions or a refusal from actions (Vygotsky, 1991, p.136). Emotional reactions do not trigger meaning making process. Personal mental-emotional experiences are "dynamic units constituting consciousness", in every one of such units "all the properties of consciousness are given" (Vygotsky, 1966, p.216). A personal mental-emotional experience "is a concentration of unique features of a child's character and personality at work when processing experience of interaction with a moment of reality" (Vygotsky, 1966, pp.79-80). Therefore, it can be argued that personal mental-emotional experience is an element of meaning making.

I draw much attention to the significance of personal mental-emotional experience because I argue that it is a necessary component of meaning making together with cognitive processes and social activity. It can be regarded an essential link, discovered by Vygotsky, between the cognitive and the social which is lacking in the theories of meaning making. Vygotsky (1966) explains:

> Perezhivanie (personal mental-emotional experience) is a unit of consciousness in which, on the one hand, the reality is represented in an indissoluble form, it refers to something outside a child; on the other hand, it represents how one experiences it, i.e.

> all the features of a personality and all the features of the environment are represented in a personal mental-emotional experience. … Thus, in a personal mental-emotional experience we always deal with the indivisible unity of the personality characteristics and the peculiarities of the situation represented in this particular personal mental-emotional experience. (pp.79-80)

From this angle, a personality of a child is shaped by dynamic contacts with the environment in the course of social relations resulting in personal mental-emotional experiences. According to Vygotsky (1991), "…a personality… must be understood not as a final formation, but as a constantly changing dynamic form of interaction between an organism and environment" (p.241). He clarifies: "personality is a social concept…it is not in-born but arises as a result of cultural development" (Vygotsky, 1929/1982a, p.161) and "alongside with mental functions" (Vygotsky, 1986, p.59). From this it seems to follow that Vygotsky means that meaning making is an individualized process, unique for every person. Individual meanings are personified because of an individual's axiological system, cultural erudition originating from one's family, temperament, and emotional involvement. 'Perezhivanie' shapes a child's personality and paves the way to the development of individualized modes of meaning making. Therefore, I have chosen to add the word 'personal', when translating the term 'perezhivanie'.

To summarize, it is reasonable to argue that Vygotsky deduces three important components contributing to child's successful meaning making: maturing of mental functions and formation of conceptual systems (the cognitive), socially meaningful activity and acquiring cultural instruments (the social)[10] and mental-emotional involvement into a personally meaningful situation (the volitional-emotional/motivational). All the three spheres are strongly interconnected and at times overlap.

[10] According to Vygotsky (1993a), "in a general sense, all cultural is social" (p.145).

Chapter 4. Cognitivist view on meaning making

This chapter explores how Vygotsky's idea about emergence of complex and conceptual thinking can be realized in the light of Lakoff and Johnson's theory of metaphorical thinking. Moreover, I will analyze how Lakoff and Johnson's theory of cognitive metaphor supports Vygotsky's conclusion that meaning making occurs according to some lines of generalization, sustaining the idea that human mind is a pattern-recognizer and a pattern-builder.

First, I will describe Lakoff' and Johnson's approach to understanding of the metaphorical nature of human thinking. Then, I will analyze Lakoff and Johnson's grasp of metaphor as a tool and a product of thinking and language, enabling storage of conventional meanings and providing tracks or lines of generalization for making new meanings. Finally, I will discuss the pedagogical potential of metaphor.

There is no direct reference in Lakoff and Johnson's works to Vygotsky's theory, however, it is rather clear that they point to the same phenomena and follow similar methodological paths. Nevertheless, "it is probably more important… that many of the research trends that started more or less independently of Vygotsky's theoretical legacy are now converging with his ideas" (Kozulin, 2012, p. xii). From this point of view, Vygotsky's thoughts and ideas, "instead of fading with time, are becoming more and more prominent in the new contexts" (Kozulin, 2012, p. xii).

4.1. Metaphorical nature of human thinking

Vygotsky's research has clearly shown that child's thinking is not conceptual at the outset. A child does not think in terms of concepts but rather in terms of complexes and pseudo-concepts. However, primitive thinking does not preclude categorization in the process of cognition (Vygotsky, 1934/2012, p.150). To this end, Vygotsky draws attention to Lévy-Bruhl's research of primitive thinking based on the principle of 'participation' (in Rssian: партиципация, participacija) which is in fact a primitive basic form of categorization (Vygotsky, 1934/2012, p.150). Vygotsky (1934/2012) explains:

> This is a relation which a primitive thought establishes between two objects or two phenomena, regarding them as partly identical, having a strong influence on one another, while there is no special contact between them, or any clear reasonable connection. (p.150)

Even though 'participation' was studied by a number of scholars-contemporaries of Vygotsky, inter alia by Piaget with regard to child's thinking, this phenomenon "was not studied properly",

in Vygotsky's opinion (Vygotsky, 1934/2012, p.151). The reason for that was that researchers examined the final result of this phenomenon, "ignoring those functions, forms of thought, cognitive operations, which establish these connections" (Vygotsky, 1934/2012, p.151). Vygotsky is convinced that complex thinking of a child is based on 'participation' because "there arise connections and relations between objects in child's thinking not explainable in terms of conceptual thinking" (Vygotsky, 1934/2012, p.152). Further, Vygotsky observes that due to 'participation' "one and the same object can enter different complexes and thus can get different names" (Vygotsky, 1934/2012, p.152). The use of a word as a family name in different complexes allows interrelations between complexes and then concepts (Vygotsky, 1934/2012, pp.152-153). Stating this in an axiomatic way, Vygotsky does not explain how these principles function in developing conceptual thinking.

What Vygotsky drew attention to was in fact an attempt to explain how humans cognize phenomena in terms of other phenomena or objects. Since he recognizes this principle of thinking as basic, its significance is impossible to overestimate. The 'participation'-principle gives the key to understanding of the nature of human conceptualization of the outer world and, thus, provides the basis for understanding of the meaning making processes. Lakoff and Johnson's idea of metaphorical nature of human thinking discloses, reveals and explains in detail how this principle works in human mind. To this end, Lakoff and Johnson's research is the way to realize the meaning generation mechanisms outlined by Vygotsky.

The main idea relating Vygotsky's 'participation principle' and Lakoff and Johnson's metaphorical thinking is that the essence of both is "understanding and experiencing one kind of thing in terms of another" (Lakoff & Johnson, 2003, p.5). This way of meaning making Lakoff and Johnson call 'a cognitive metaphor'. This idea, in fact, goes back to Stephen C. Pepper's root metaphor (Pepper, 1942), which he defined as "an area of empirical observation which is the point of origin for a world hypothesis" (p.38).[11]

Lakoff and Johnson take the view that "our concepts structure what we perceive, how we get around in the world, and how we relate to other people" (Lakoff & Johnson, 1980, p.454), i.e. "our conceptual system thus plays a central role in defining our everyday realities" (Lakoff & Johnson, 2003, p.3). They assert that "our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (Lakoff & Johnson, 2003, p.3),

[11] Cf. also McCormack's definition of a cognitive metaphor: "the most basic assumption about the nature of the world or experience that we can make when we try to give a description of it" (McCormack, 1976).

thus “the way we think, what we experience, and what we do every day is very much a matter of metaphor” (Lakoff & Johnson, 2003, p.3).

In the same way as Vygotsky, Lakoff and Johnson claim that meaning making occurs through collaboration of thinking and language, stating in particular “metaphor as a phenomenon presupposes conceptual transference and a linguistic expression” (Lakoff & Johnson, 1999, pp.61-62). They clarify that metaphors are not merely words, they are cognitive mechanisms intrinsic to our thinking, language and speaking (Lakoff & Johnson, 2003).

According to Vygotsky, early concepts arise spontaneously in everyday (domestic) relations (Vygotsky, 1934/2012, p.123). Lakoff and Johnson call them primary metaphors based on experiential gestalts (more on gestalts in 4.2.). They explain that children “acquire a large system of primary metaphors automatically and unconsciously by functioning in the most ordinary of ways in the everyday world from … earliest years” (Lakoff & Johnson, 1999, p.47). This becomes possible because children and adults share conventionalized meanings of words, despite the fact that for children they are situational (Vygotsky, 1934/2012, p.116). Lakoff and Johnson (1999) specify that

> Primary metaphors are like atoms that can be put together to form molecules. A great many of these complex molecular metaphors are stable – conventionalized, entrenched, fixed for long periods of time. They form a huge part of conceptual system and affect how we can think and what we can care about almost every waking moment. (p.60)

Vygotsky observes that “in the first stage of child’s autonomous speech, there does not exist relations of generality between concepts, there are possible only connections established on the basis of perception” (Vygotsky, 1934/2012, p.271), then the question arises what mechanisms ensure the cohesion of concepts already in early age (Vygotsky, 1934/2012, p.271). Concepts are not connected by associations, not through the structures of the perceived images, but due to their juxtaposition (comparison and differentiation) which results in a creation of an over-concept bound by image (Vygotsky, 1934/2012, pp.271-272).

These over-concepts are metaphorical types of generality, which Lakoff and Johnson described in terms of orientational, ontological and structural metaphors (Lakoff &Johnson, 1980a: 195-198). Orientational metaphors are based on spatial orientations of our bodies’ functioning in the physical environment (p.196). Therefore, *our spirits rise* (SOMETHING is UP) and *prices*

fall (SOMETHING is DOWN).[12] Ontological metaphors allow understanding our experience in terms of objects and substances, i.e. "human purposes typically require us to impose artificial boundaries that make physical phenomena discreet just as we are: entities bounded by a surface" (Lakoff & Johnson, 2003, p.25). Therefore, sometimes it is difficult *to put one's ideas in words* (WORDS are CONTAINERS) or *we run out of energy* (VITAILITY is SUBSTANCE). Ontological metaphors like this are so natural and so pervasive in our thought that they are usually taken as self-evident, direct descriptions of mental phenomena (Lakoff & Johnson, 2003, p.28). Structural metaphors involve structuring of one kind of experience in terms of another kind of experience or activity (Lakoff & Johnson, 1980a, p.197). Therefore, *we see each other's points of view* (SEEING is UNDESTANDING) and *defend our positions* (ARGUMENT is WAR).

These over-concepts tune the whole conceptual system serving two purposes. On the one hand, they are storages for social-cultural human experience, on the other hand, they secure coherent structuring of new experiences and provide for continuity of meaning making (Melenteva, 2001).

4.2. Cognitive metaphors as storage systems and meaning making instruments

Cognitive metaphors are repositories of social-cultural heritage of a linguo-cultural community (c.f. Bruner's folk psychologies). They are the result of cognitive-practical-axiological-emotional experience of linguo-cultural societies (Melenteva, 2001). This result is experienced by members of a linguo-cultural community as "a *gestalt*; that is, the complex of properties occurring together" (Lakoff & Johnson, 2003, p.71). People classify their experiences in terms of 'experiential gestalts' in the conceptual system (Lakoff & Johnson, 2003, p.83). Gestalts should be understood as concepts whose properties "do not merely form a *set* but a *structured gestalt*, with dimensions that emerge naturally from our experience" (Lakoff & Johnson, 2003, p.122). Moreover, "concepts are defined by prototypes and by types of relations to prototypes" (Lakoff & Johnson, 2003, p.127). It seems that the coincidence of the prototypical features of gestalts gives the opportunity for a metaphorical shift, and they are those generalization lines, Vygotsky refers to, given in adult speech and setting the direction of development of gestalts in child's thinking (Vygotsky, 1934/2012, p.140).

Child's thinking, guided by meanings established in the language of adults, undergoes universal developmental stages (the development of mental functions). However, language as a

[12] More on that in Melenteva, 2001.

repository of cultural values of child's lingo-cultural community, "predetermines the ways according to which child's generalizations (cf. Lakoff's prototypical gestalts) are shaped" (Vygotsky, 1934/2012, p.141). Lakoff and Johnson (2003) confirm that "the most fundamental values in a culture will be coherent with the metaphorical structure of the most fundamental concepts in the culture" (p.22). Adults cannot pass on their modes of thinking to children, but they pass on the ready-formed meanings (values – MM) through their language (Vygotsky, 1934/2012, p.141), thus providing the framework for social reality and cultural development of a child. Vygotsky does not specify how it happens, and here Lakoff and Johnson's theory acquires an explanatory force. Lakoff and Johnson (2003) clarify:

> Each culture must provide a more or less successful way of dealing with its environment, both adapting to it and changing it. Moreover, each culture must define a social reality within which people have roles that make sense to them and in terms of which they can function socially. Not surprisingly, the social reality defined by a culture affects its conception of physical reality. What is real for an individual as a member of a culture is a product both of his social reality and of the way in which it shapes his experience of the physical world. Since much of our social reality is understood in metaphorical terms, and since our conception of the physical world is partly metaphorical, metaphor plays a very significant role in determining what is real for us. (p.146)

As a result, child's cognitive flexibility makes it possible, on the one hand, to inherit the system of metaphorical over-concepts typical of this culture and society and, on the other hand, to modify them to satisfy their personal requirements stemming from the volitional-emotional sphere. Lakoff and Johnson (1999) observe:

> But we also have considerable cognitive flexibility, which provides for a limited but crucial freedom of conceptualization. Because we have multiple metaphors for our most important concepts, those metaphors can sometimes be reprioritized. It may be possible to learn to use certain metaphor rather than others and to learn new metaphors. Occasionally we become aware of some of our metaphors and their connections to each other, which may generate new ways of understanding. (p.537)

Once internalized, cognitive metaphors serve as instruments of mapping and categorizing of the outer reality (Lakoff 1987) and models for constructing new meanings and new realities, especially social realities (Lakoff & Johnson, 2003, p.156). Thus, cognitive metaphors may be guiding for future actions. In its turn, the power of the metaphor will be reinforced, and all

experiences become coherent. In this sense, “metaphors can be self-fulfilling prophecies” (Lakoff & Johnson, 2003, p.156). The power of metaphor to create a new reality inspires its application in pedagogical contexts.

4.3. Pedagogical potential of metaphor

The significance of metaphors in instructional settings is recognized (Schultz & Lien, 2013), however their therapeutic or pedagogical potential has not yet been substantially studied.

The first important pedagogical outcome of Lakoff and Johnson’s theory consists in the statement that “… we act according to the way we conceive of things” (Lakoff & Johnson, 2003, p.5), i.e. we think, speak and act in very much the same terms (cf. Vygotsky’s inner speech). In case there arise worries about a child’s challenges in learning or social functioning, or about the way he or she acts in everyday life, there is a clear signal that pedagogical work with regard to meaning making needs to be done. How can we get access to child’s conceptual systems? Lakoff and Johnson come with an answer: “since communication is based on the same conceptual system that we use in thinking and acting, language is an important source of evidence for what that system is like” (Lakoff & Johnson, 2003, p.3).

Metaphorical thinking pervades child’s everyday reality. Therefore, “we can use metaphorical linguistic expressions to study the nature of metaphorical concepts and to gain an understanding of the metaphorical nature of our activities” (Lakoff & Johnson, 2003, p.7). It is important to note here, that Lakoff and Johnson do not mean that poetic metaphorical expressions or figures of speech creating poetic images give us access to child’s way of thinking, they are rather trite metaphors that define our actions. However, a picturesque image can certainly contribute to an effective meaning making. For example, when comparing a child’s outburst of anger to ‘a boiling pot’, we give a child a picture or an image of how it looks when he/she acts in this way. We provide a child with a metaphorical frame to help him or her make meaning of a situation. The picturesque image, however, does not violate the established over-concepts (in Vygotsky’s terms)/cognitive metaphors EMOTIONS are SUBSTANCES and HUMAN BODIES are CONTAINERS (like, for example: I am *brimming* with happiness, he *is filled with* joy). Therefore, it goes in line with previous metaphorical experiences of a child.

Lakoff and Johnson (2003) argue that “when we say that a concept is structured by a metaphor, we mean that it is partially structured and that it can be extended in some ways but not others” (Lakoff & Johnson, 2003, p.13). Let me suggest an example. The Western European society has accepted the cognitive metaphor of war with respect to discussions and argument. Thus,

ARGUMENT is WAR metaphor has become basis for the formation of usual metaphorical expressions like: Your claims are *indefensible.* He *attacked* every weak point in my argument. His criticisms were right on *target.* I *demolished* his argument. I've never *won* an argument with him. You must *defend* your position etc (Lakoff & Johnson, 2003).

ARGUMNENT is WAR metaphor is not a fertile soil for those children who have socialization or behaviour problems or diagnoses like ADHD[13], ASD[14], ODD[15] etc. It is difficult for them to recognize these expressions as metaphorical or figurative. ARGUMENT-slot can easily be substituted by, for example, COMMUNICATION-slot. This is possible because categories are open-ended and may lead to a recategorization (Lakoff & Johnson, 2003, p.124). Then, the scope of situations interpreted in terms of war can expand. Since, this over-concept is well-established as a linguo-cultural gestalt, children can easily apply COMMUNICATION is WAR scenario to a variety of situations.[16] It must be mentioned, that "though categories are open-ended, categorization is not random, since both metaphors and hedges define (or redefine) categories in systematic ways" (Lakoff & Johnson, 2003, p.124). Therefore, metaphorical shift is predictable and occurs within the domains meaningfully connected to each other. Argument, conversation, social intercourse etc. have prototypical features which makes them open-ended to each other. War, fight, battle, combat, match, wrestling, taekwondo sparring etc also have open-ended edges.

Due to its potential to re-categorize and create new understandings, metaphor can become useful in pedagogical settings. The change in slots in cognitive metaphors opens up for new interpretations and results in meaning making adequate for pedagogical purposes. Lakoff and Johnson (2003) emphasize: "in allowing us to focus on one aspect of a concept …, a metaphorical concept can keep us from focusing on other aspects of the concept that are inconsistent with that metaphor" (p.12). If, for example, a boy with ADHD repeats constantly that "the world (family, school, street) is a fight, a struggle, a battle –field" and acts accordingly because the cognitive metaphor dictates scenario for his actions, a careful introduction of new slots into his 'cognitive metaphor of war' may change his appreciation of both new and familiar situations. Judging by experience, the boy with ADHD reacted well to the modification of the basic metaphor COMMUNICATION is FIGHT into "fight is a football match", then

[13] Attention deficit and hyperactivity disorder
[14] Autism spectrum disorder
[15] Oppositional defiant disorder
[16] I have studied the meta-metaphorical level allowing the change of slots in Melenteva, 2001.

correspondingly COMMUNICATION is GAME, with rules and respect to all players.[17] Thus, disclosing deviations in the established systems of over-concepts (primary metaphors based on experiential gestalts) through speaking with a child and the analysis of his or her acting according to the establishing metaphorical pattern, can provide a necessary basis for pedagogical corrections.

Another example illustrates the application of cognitive metaphor in a PTSD[18] case. A girl suffering from PTSD failed to identify herself and her place in the group of children who were involved into a traumatic event. She constructed all her narratives based on metaphorical images associated with herself (her personal mental-emotional experiences). She spoke about herself as a sandbox, where kids played taking all the sand out of her (a personal mental-emotional imprint). Therefore, she explained, she was empty inside all the time. The cognitive metaphor HUMAN is CONTAINER was sustained and then the slot SANDBOX was changed into WELL, which is never empty even if people take water out of it. Another example, is that she associated herself with a small miserable dog/cat seeking attention and nobody paid attention to her and "just kicked her around" (a personal mental-emotional imprint). She was suggested an image of a bigger dog/other animal, proud and all-sufficient. She chose an image of a panther (bigger cat) which led to the raise of her self-esteem. In both situations, the outcome was a shift in meaning making through the change in personal mental-emotional experience resulting in positive changes in the girl's life.

Metaphors are used in psychoeducation. According to Kvilhaug,[19] it is important to give a child an opportunity to describe his or her own experience about what happens with the body (how it feels like having a diagnosis), because "language is an important source of evidence for what a conceptual system is like" (Lakoff & Johnson, 2003, p.3). Here are some of the expressions showing how it is perceived by a child to have ADHD or TS[20], all of them are metaphoric:

*Det klør i hjernen min. Det er som myggestikk. Mitt skjelett passer ikke. Hjernen sender beskjed om å gjøre det. Hjertet brenner og hjernen fryser til is. Det danser rundt i hodet. Øynene styrer hit og dit når jeg retter oppmerksomhet til stedet. Jeg har varme bølger. Alle tankene mine popper opp som popcorn, de flytter hit og dit og jeg får ikke samlet dem (*Kvilhaug, 2011*).*

[17] The results of my experimental pedagogical interventions have not become the object of research yet.
[18] Post traumatic stress disorder
[19] My observations of the counselling process by Kvilhaug during my internship at Statped- Nord in spring 2017
[20] Tourette syndrome

These examples demonstrate that new, strange and unknown feelings are easier to describe in metaphoric terms, because metaphor helps to describe unknown in terms of known, and anchor it with a concrete image, based on one's personal mental-emotional experience.

Another important idea stems from the examples above. Children with developmental peculiarities (Vygotsky's term) or children with special needs (accustomed term) can generalize experience according to different generalization lines, i.e. they can choose a different set of prototypical features of gestalts to make meaning of a new situation or phenomena. Like in the famous example, provided by Lakoff and Johnson about an Iranian student's misunderstanding of a chemical metaphor. The example concerns the use of a metaphorical expression 'the solution of my problems'. The student interpreted this metaphor as "a view of problems as things that never disappear utterly and that cannot be solved once and for all" because problems are chemical stuffs that can crystallize again and again in a chemical solution of a life situation (Lakoff and Johnson, 2003, p.144).

The choice of different lines of generalization can preclude understanding of metaphorical expressions and result in literal interpretation. I recollect an example from my practice with a girl with ASD in a situation when she was confused because I said with regard to some others: "it is difficult to pull oneself together" (*det er vel vanskelig å ta seg sammen*). She put her hands around herself and tried to press them hard around her shoulders. Her conclusion was that it was impossible to pull oneself together. This example demonstrates that application of metaphor is not always productive with children who have autism, for example. For them, metaphor is confusing because of the linear syntagmatic character of their thinking. In such cases narrative can be more productive and I will discuss it in subsection 5.5.

In conclusion, Vygotsky's research on emergence of complex thinking based on the principle of 'participation', allowing conceptual shift along certain lines of generalization, in young age and development of conceptual thinking in adolescence converges with Lakoff and Johnson's theory of metaphorical nature of human thinking. Moreover, the latters' research reveals the essence of meaning making processes intrinsic to metaphorical thinking. The pedagogical potential of metaphor is based on its ability to catch and limit the understanding of the unknown or abstract and narrow the "freedom of conceptualization"; on the other hand, metaphors can open up, widen and develop the borders of the world perception (Skarstein, 2013, p.40).

Chapter 5. Social constructivist view on meaning making

This chapter explores how Vygotsky's idea of child cultural (social) development converges with Bruner's theory of folk psychology and pre-linguistic readiness for meaning. Moreover, I will analyze how Bruner's 'narrative' can operationalize Vygotsky's ideas on social construction of meaning through personal mental-emotional experience and imitative modelling.

First, I will describe Bruner's approach to different types of thinking and the significance of folk psychology and pre-linguistic mental representations for humans' construction of meaning. Then, I will analyze Bruner's grasp of narrative as a storage device of folk theories and its generative capacity in meaning making. Finally, I will discuss the pedagogical potential of narrative.

5.1. Vygotsky's impact on Bruner's research

Bruner's fundamental idea about social interactionist theory of language development stems from Vygotsky's instrumentalism and imitative modelling with its socio-cultural impact on child's cognitive and linguistic development. Bruner (1986) writes:

> For Vygotsky was plainly a genius…To begin with, I liked his instrumentalism, his way of interpreting thought and speech as instruments for the planning and carrying out of action. … Language is (in Vygotsky's sense as in Dewey's) a way of sorting out one's thoughts about things. Thought is a mode of organizing perception and action. But all of them, each in their way, also reflect the tools and aids available in the culture for use in carrying out action. (p.72)

The difference between their approaches is that Bruner is rather interested in social and interpersonal factors impacting on child's meaning making, while Vygotsky is preoccupied with the process of transformation of interpersonal meaning making into intrapersonal, the latter encompassing emotional and neurobiological peculiarities of child's personality. Still, Bruner (1986) recognizes Vygotsky's rightness about the importance of both the cultural (social) and the biological in child's development:

> Looking at his work again after many years of inspiration from it, I think he provides the still needed provocation to find a way of understanding man as a product of culture as well as a product of nature. (p.78)

This is a crucial idea against which Bruner's discussion of biological and cultural in meaning is built. They are the two driving forces in child development and Bruner's research is an

attempt to reconcile the two approaches to meaning – cognitive and social constructivist – in a very Vygotskian way.

5.2. Syntagmatic and paradigmatic thinking

Vygotsky's idea of the principal role of child's verbal thinking found its further elaboration in Bruner's theory. Approaching this issue, Bruner observes that traditionally thought is treated as an instrument of reason, however not all modes of thought are logical (Bruner, 2004, p.691). According to Bruner, there are two modes of thinking: syntagmatic and paradigmatic. Syntagmatic thinking is associated with linear timing of the reality describing the sequence of events. Our everyday thinking is syntagmatic by its nature. This thinking includes a subjective perspective upon the reality and is situationally conditioned. Narrative is the structural unit of such a mode of thinking. Syntagmatic thinking exists parallel to paradigmatic thinking. The latter is not linear, rather often abstract. Bruner (1986) explains:

> There are two modes of cognitive thinking, two modes of thought, each providing distinct ways of ordering experience, or constructing reality. The two (though complementary) are irreducible to one another. Efforts to reduce one mode to the other or to ignore one at the expense of the other inevitably fail to capture the rich diversity of thought. Each of the ways of knowing, moreover, has operating principles of its own and its own criteria of well-formedness. They differ radically in their procedures for verification. A good story and a well-formed argument are different natural kinds. Both mentally different: arguments convince one of their truth, stories of their lifelikeliness. The other establishes not truth but verisimilitude. (p.11)

Already in early childhood, syntagmatic way of thinking becomes part of an everyday life scenario. When commenting on the sequence of the performed actions, plans for a day or telling stories, adults trigger linear thinking in infants and children. It reminds us of Vygotsky's idea of child's complex thinking, the units of which are complexes of different designation but still built on the principle of linear lines of generalization (for example, generalization of the connection between perceived objects in one and the same setting, family resemblance etc). Complex thinking seems to precede syntagmatic thinking, because the latter operates with concepts not complexes. But they seem to overlap for a certain period in child's development (Vygotsky 1934/2012, p.145). The discourses provided by adults result in the rise of spontaneous everyday concepts (in Vygotsky's terms), which contributes to the formation of syntagmatic thinking.

Unlike Vygotsky, interested in the nature of concept formation, Bruner's research interest is on the precursors of language in child. On the basis of his experiment, Bruner (1986) maintains that

> very young children had something clearly in mind about what others had in mind, and organized their actions accordingly. I thought of it as the child achieving mastery of one of the precursors of language use: a sense of mutuality in action. (p.59)

Bruner regards this child's ability to manage his or her attention jointly with others as the prerequisite of linguistic reference (Bruner, 1986, p.60). His experiments show that already by their first birthday children are capable of following others' line of regard to search for an object attracting others' attention, which "surely requires a sophisticated conception of a partner's mind" (Bruner, 1986, p.60). Vygotsky calls this ability interpersonal perception (Vygotsky, 1982, pp.379-380) and recognizes its significance for child's language development. Vygotsky regards this stage as a pre-intellectual stage in speech development and considers it as a clear manifestation of the social function of language in early age (Vygotsky, 1934/2012, p.96). However, he does not develop this idea further and it is important for him only with regard to the discussion of egocentric-autistic vs. social organization of mind. Nevertheless, Vygotsky's greatest achievement is that he realized that this stage is a stage of language development although infants are speechless. Bruner emphasizes this by saying "we (psychologists – MM) became interested (again in an individualistic way) in man's specific innate readiness for language. But with a few exceptions, notably Vygotsky, we did not pursue the impact of language use on the nature of man as a species" (Bruner, 1990, p.11).

Vygotsky was very close to the conclusion, later made by Bruner (1986):

> The achievement by the child of such "intersubjective" reference comes so easily, so naturally, that it… suggests that there must be something preadapted and prelinguistic that aids us in achieving initial linguistic reference. I do not doubt such a biological assist. But this early assist is so partly in comparison to the finished achievement of reference that it cannot be the whole of the story. … One has to conclude that the subtle and systematic basis upon which linguistic reference itself rests must reflect a natural organization of mind, one into which we grow through experience rather than one we achieve by learning. (p.63)

From the above said it follows that the social organization of mind is a cognitive precursor of successful language development and thus verbal thinking. Through our cultural experience

mediated by life narratives we grow into such an organization of mind which allows us thinking both syntagmatically and paradigmatically, i.e. allows us operating both with everyday (spontaneous) and academic concepts (in Vygotsky's terms). Cultural experience results in a number of cultural tool-kits (cultural instruments in Vygotsky's terms) – "a stock of canonical life narratives with combinable formal constituents from which the members can construct their own life narratives" (Bruner, 2004, p.694). As I understand it, it is a kind of narrative competence presupposing one's knowledge of myths, social rules and codes, cultural cognitive metaphors, cultural traditions, fairy tales etc and enabling an individual to understand and interpret social-cultural contexts. All in all, an individual's narrative competence is based on folk psychology which I will discuss in the next subsection. Having said this, I will turn to paradigmatic thinking.

Paradigmatic thinking is a "logico-scientific one, attempts to fulfill the ideal of a formal, mathematical system of description and explanation" (Bruner, 1986, p.12). Paradigmatic thinking "employs categorization or conceptualization and the operations by which categories are established, instantiated, idealized, and related one to the other to form a system" (Bruner, 1985, p.12). It will probably be wrong to conclude from this that syntagmatic thinking is void of categorization. Both syntagmatic and paradigmatic thinking employ categorization, but in case of syntagmatic thinking, categorization is contextually bound, while in paradigmatic thinking it becomes abstract. In fact, Vygotsky also distinguishes between two types of thinking: visual-figurative and abstract (Vygotsky, 1934/2012, p.146), where the latter one is logical academic thinking, corresponding to Bruner's paradigmatic thinking. As I understand Bruner's line of argument, paradigmatic thinking gives an individual a meta-perspective which allows to open up for argument rather than justification. If a child does not develop paradigmatic thinking, fewer versions or interpretations of reality will be accessible, thus, a child may acquire a passive role in his/her own life. To this end, metaphor can become a valuable tool extending the repertoire of possible interpretations and meaning (Lakoff & Johnson, 2003, p.3), and appearance of cognitive metaphors precedes systemic conceptual (paradigmatic in Bruner's terms) thinking (Lakoff & Johnson, 2003, p.124, p.156). Metaphors allow interpreting the new in terms of the known, thus metaphorical thinking allows acquiring another perspective on the phenomena and events, enriching folk theories with one's own values and personal mental-emotional experiences. Vygotsky calls it figurative thinking (Vygotsky, 1934/2002, p.146).

To summarize, Vygotsky's, Bruner's and Lakoff and Johnson's theories on thinking converge and complement each other. Vygotsky and Bruner distinguish pre-intellectual stage of joint reference in child's language development. Vygotsky singles out a level of complex thinking which corresponds to the stage in child development when he or she, according to Bruner, is engaged in the familiarization with cultural tool kits (narrative competence level). The next level is the level of syntagmatic thinking, in accordance with Bruner, which corresponds to Vygotsky's stage of the appearance of spontaneous (everyday) concepts. This stage seems to coincide with figurative thinking (in Vygotsky's terms) and metaphorical thinking (in Lakoff and Jonson's terms). The highest level is the systemic level of highest abstraction and paradigmatic thinking distinguished also by all the scholars. I have attempted to make a figure representing these levels in Appendix 1 and a figure representing the appearance of different operational units of thinking in Appendix 2.

5.3. Folk psychology

Syntagmatic thinking relies on folk theories constituting folk psychology. According to Bruner (1990),

> 'folk psychology', 'folk social science' or 'common sense' is "a set of more or less connected, more or less normative descriptions about human being "tick", what our own and other minds are like, what one can expect situated action to be like, what are possible modes of life, how one commits oneself to them… (p.35)

Different terms are used to denote folk theories: cultural models, common sense theory, common knowledge, cultural myth, everyday theories, folk psychology etc (Skarstein, 2013, p.41). Interpreting Bruner, Skarstein explains "folk theories are everyday (contrary to scientific) theories about 'the world'. They contain (unconsciously) assumptions about models of simplified worlds" (Skarstein, 2013, p.41). These everyday theories are organized into a system "by which people organize their experience in, knowledge about, and transactions with the social world" (Bruner, 1990, p.35).

The major constituents of the folk psychology are "elementary beliefs or premises that enter into narratives about human plights" (Bruner, 1990, p.39). For Bruner, it is an obvious premise that people have beliefs and desires. People "*believe* that the world is organized in certain ways, that we *want* certain things, that some things *matter* more than others" (Bruner, 1990, p.39). People's beliefs and desires are coherent and organized "as to merit being called "commitments" or "ways of life" and such coherences are seen as "dispositions" that characterize persons: loyal wife, devoted father, faithful friend" (Bruner, 1990, p.39). These

dispositions or commitments have a great power over human mental functioning and life because they provide "the very means by which culture shapes human beings to its requirements" (Bruner, 1990, p.15). Very early in life, when learning language children get acquainted with folk theories in order "to conduct the interpersonal transactions required in communal life" (Bruner, 1990, p.35). Acquiring them early and rightly opens up for a successful life scenario. I will come back to the discussion of this issue in section 5.5. when considering the pedagogical potential of a social narrative (social story/comic strip) for autistic children.

So, Bruner (1990) argues that

> …it is culture, not biology, that shapes human life and the human mind, that gives meaning to action by situating its underlying intentional states in an interpretative system. It does this by imposing the patterns inherent in the culture's symbolic systems – its language and discourse modes, the forms of logical and narrative explication, and the patterns of mutually dependent communal life. (p.34)

The substrate of folk psychology is culture. Bruner asserts that the turning point in human evolution was when culture became the crucial factor "in giving form to the minds of those living under its sway" (Bruner, 1990, p.12). Folk psychology "is a culture's account of what makes human beings tick. It includes a theory of mind, one's own and others', a theory of motivation, and the rest" (Bruner, 1990, p.13). Psychology is immersed in culture and must be "organized around those meaning-making and meaning-using processes that connect man to culture" (Bruner, 1990, p.12). Thus, "the central concept of a human psychology is *meaning* and the processes and transactions involved in the construction of meanings" (Bruner, 1990, p.35). Bruner (1990) argues that "it is culture and the search for meaning that is the shaping hand, biology that is the constraint, and that… culture even has it in its power to loosen the constraint" (p.23).

From that it seemingly follows that Bruner stands on the position of a sheer social constructivism, focusing on the significance of child's social development, but it is not quite the point. In fact, he develops Vygotsky's idea on the significance of the initial social function of speech and language preceding the appearance of egocentric private speech and inner speech. Bruner connects the "biology" of meaning to its "culture" (Bruner, 1990, p.69). From this point of view, his research is a valuable contribution to Vygotsky's theory of the development of

mental functions, which completes the holistic picture of how thinking and language operate in meaning making.

Bruner (1990) asks: "so how can there be a "biology" of meaning?" (p.69) and gives a comprehensive answer pointing out that one can conceive it "by reference to some sort of precursor system that readies the paralinguistic organism to traffic in language, some sort of protolinguistic system" (p.69). He concludes, quite like Vygotsky supposed, "we have an innate gift for language" (Bruner, 1990, p.69).

Bruner calls this gift "a prelinguistic 'readiness for meaning'" (Bruner, 1990, p.72). He explains that there exist certain classes of meaning "to which human beings are innately tuned and for which they actively search" (Bruner, 1990, p.72). These classes of meaning precede word meanings (in Vygotsky's terms), they exist "in primitive form as protolinguistic representations of the world whose full realization depends upon the cultural tool of language" (Bruner, 1990, p.72). These protolinguistic representations remind us of the origin to Lakoff and Johnson's cognitive metaphors – prototypic gestalts (Lakoff & Johnson, 2003, p.71). In the same line of argument, Bruner (1990) maintains:

> I believe it is highly malleable yet innate representation that is triggered by the acts and expressions of others and by certain basic social contexts in which human beings interact. In a word, we come initially equipped, if not with a "theory" of mind, then surely with a set of predispositions to construe the social world in a particular way and to act upon our construes. (p.73)

So far, I have attempted to show Bruner's core idea that folk psychology is rooted in a shared conceptual structure steeped in intentional states, like beliefs and commitments, originating from some kind of protolinguistic representations (Bruner, 1990, p.14, p.71). Cultural substrate of folk psychology inevitably makes it an axiological system because "it is through folk psychology that people anticipate and judge one another, draw conclusions about the worthwhileness of their lives, and so on" (Bruner, 1990, p.15). Bruner (1990) explains:

> when anybody is seen to believe or desire or act in a way that fails to take the state of the world into account, to commit a truly gratuitous act, he is judged to be folk-psychologically insane unless he, as an agent, can be narratively reconstrued as being in the grip of a mitigating quandary or of crushing circumstances. (p. 40)

This quotation contains an important idea: folk psychology is a cultural code of how things "are as they should be" (Bruner, 1990, p.40). Bruner (1990) clarifies: "folk psychology is invested

in canonicality. It focuses upon the expectable and/or the usual in the human condition. It endows these with legitimacy or authority" (Bruner, 1990, p.47). When folk psychology's "constituent beliefs are violated, then narratives are constructed" (Bruner, 1990, p.39). It is narrative that "specializes in the forging of links between the exceptional and the ordinary" (Bruner, 1990, p.47).

Narrativized folk psychology broadly "might be called the 'organization of experience'" (Bruner, 1990, p.55) in terms of *framing* or schematizing (Bruner, 1990, p.56). Framing is extremely important because it

> provides a means of "constructing" a world, of characterizing its flow, of segmenting events within that world, and so on. If we were not able to do such framing, we would be lost in a murk of chaotic experience and probably would not have survived as a species in any case. (Bruner, 1990, p.56)

The typical form of framing experience and individual's memory of it is 'narrative' and I proceed with the examination of narrative in the next subsection.

5.4. Narrative

Bruner (1990) defines narrative as a form of discourse and a mode of organizing experience (p.43, p.55). Narratives are stories which render some information, and which create sense and give meaning to the discussed events. Narrative is a value loaded story about an individual's experiences of events, it is a presentation of a situation structured according repertoire of folk theories, deep structures of folk psychology. Narratives vary from culture to culture, an individual to individual. Narrative is a type of discourse, possessing a meaning making potential (Skarstein, 2013, p.36). Also, narratives are frames, patterns or structures which help to arrange impressions, knowledge and experiences in a certain way. Bruner (2004) explains:

> …eventually the culturally shaped cognitive and linguistic processes that guide the self-telling of life narratives achieve the power to structure perceptual experience, to organize memory, to segment and purpose, build the very 'events' of a life. (p.692)

Bruner (1990) distinguishes between the three elements of narrative: "its sequentially, its factual "indifference", and its unique way of managing departures from the canonical" (p.50). Bruner (1990) specifies:

> Narrative requires…four crucial grammatical constituents if it is effectively to be carried out. It requires, first, a means for emphasizing human action or "agentivity" – action directed toward goals controlled by agents. It requires, secondly, that a

> sequential order be established and maintained – that events and states be "linearized" in a standard way. Narrative, thirdly, also requires sensitivity to what is canonical and what violates canonicality in human interaction. Finally, narrative requires something approximating a narrator's perspective: it cannot, in the jargon of narratology, be "voiceless". (p.77)

It means that narratives are created within a certain time-stream (for example, chronologically), in a cause-effect sequence, and are based on a plot (problematisation) rendered from an individual's (agent's) perspective. Furthermore, narratives can be based on facts or be imaginary without losing their meaning making power. Narratives are in a way imprints of reality which do not copy it but give it a new reading. Besides, narratives give meaning to exceptional behaviour, revealing an intentional state of a character which explains deviation from a canonical rule (Bruner, 1990, pp.44-50). By way of creating narratives encompassing these essential features, we involve ourselves into a cognitive process of arranging events and feelings in such a way that it makes sense for us (cf. Vygotsky's personal mental-emotional experience).

Bruner (2004) assigns significance to the stable structure of narrative saying that "…it is form rather than content that matters" (p.696). Moreover, these elements for Bruner, are of greatest importance for child's language development. His argument, "admittedly a radical one, is simply that assures the high priority of these features in the program of language acquisition" (Bruner, 1990, p.79). He claims that the driving force for children's acquiring language is "a "push" to construct narrative that determines the order of priority in which grammatical forms are mastered by the young child" (Bruner, 1990, p.77).

The four requirements of narrative define the way for a child to master linguistic forms and categories in a certain order. Bruner (1990) explains that

> once young children come to grasp the basic idea of reference necessary for any language use …their principal linguistic interest centers on *human action and its outcomes*, particularly *human interaction"*. … People and their actions dominate the child's interest and attention. This is the first requirement of narrative. (p.78)

A second requirement "is early readiness to mark the unusual and to leave the usual unmarked" (Bruner, 1990, p.79), here he obviously means the theme-rheumatic structure of the sentence, shortened sentences, yes-no questions, the use of demonstratives, eventually articles etc. With reference to Roman Jakobson, Bruner maintains that "the very act of speaking is an act of

marking the unusual from the usual" (Bruner, 1990, p.79). The third requirement of narrative is "linearizing", thus this urges a child to follow "the standardized maintenance of sequence … built into the structure of every known grammar" (Bruner, 1990, p.79). The fourth requirement of narrative is "voice or "perspective"" (Bruner, 1990, p.79), which is, as I understand it, a modality, a choice of genre etc. Bruner's radical idea has in fact a didactic potential and can be applied in pedagogical contexts, for example, with children with language impairments of various kinds as a sequential structure for language training.

Vygotsky's theory of the development of mental functions and psychological systems impacting language development addresses the same issues, namely the driving force of stages in language acquisition. Bruner's argument brings a cultural aspect into Vygotsky's theory, very much in line with Vygotsky's idea of the precedence of social function of the language to egocentric speech. Vygotsky does not connect these issues directly in one work but writes about these issues in different treatises. Bruner (1990) combines all these aspects in a laconic way, arguing that

> while we have an "innate" and primitive predisposition to narrative organization that allows us quickly and easily to comprehend and use it, the culture soon equips us with new powers of narration through its tool kit and through the traditions of telling and interpreting in which we soon come to participate. (p.80)

An important aspect of narrative is its retrospective and selective character. Bruner (2004) puts it in the following way: "it is a selective achievement of memory recall" (p.693). Narrative is based on own experience, and the choice of what is recalled is always subjective. Besides, "self-narrative is reflexive narrative, beyond verification and rationalization" (Bruner, 2004, p.693), because "stories have to do with how protagonists interpret things, what things mean to them" (Bruner, 1990, p.47). From this it follows that narrative is a personalized reflection on one's experience. This aspect of narrative brings narrativized meaning making close to Vygotsky's personal mental-emotional experience as a necessary component of meaning making. Bruner's research shows that narrative is never objective and sometimes inconsistent:

> …mind is never free of precommitment. There is no innocent eye, nor is there one that penetrates aboriginal reality. There are instead hypotheses, versions, expected scenarios. Our precommitment about the nature of a life is that it is a story, some narrative however incoherently put together. (Bruner, 2004, p.709)

Since meaning is personal, interpretation of all our acts as meaningful or meaningless depends on who constructs the meaning. In Bruner's words: "to understand a man you must understand how his experiences and his acts are shaped by his intentional states" (Bruner, 1990, p.33). What a man is and what a man feels and thinks defines presentation of narrative because it is a narrator himself or herself who attaches meaning to narrative. Therefore, "conceptual Self" becomes central, "self as a concept created by reflection, a concept constructed much as we construct other concepts" (Bruner, 1990, p.100). Bruner (1990) observes, "Self, in this dispensation, becomes "dialogue dependent", designed as much for the recipient of our discourse as for intrapsychic purposes" (p.101). This observation of Bruner is a clear connection to Vygotsky's (and Bakhtin's) idea of the social character of individual's consciousness. Therefore, this is only natural that meaning is constructed in interactions with others, in a dialogue, even if this is a dialogue with one's conceptual Self. That is what Vygotsky calls the inner speech. When telling stories from the point of view of one's conceptual Self, one creates a reality with a "dual landscape": a landscape of action and a fictional landscape, which "must be given a reality of its own" (Bruner, 1986, p.14, p.36). If Bruner is right and our reality is what we think about it and what we tell about it, then the potential of narrative is large. When helping children to shape stories of their life, we can substantially reduce stress, anxiety and traumatic stress. I will now turn to the discussion of a pedagogical potential of narrative.

5.5. Pedagogical potential of narrative

Acquisition of folk theories is no less important than acquisition of other knowledge, including educational or pedagogical setting. Moreover, folk theories precede acquisition of any knowledge, and even language. Therefore, it seems plausible to assert that pedagogy and special needs pedagogy must work with child's world knowledge first. The reason for this is formulated by Bruner (1990) in a concise way: "in folk psychology, then, people are assumed to have world knowledge that takes the form of beliefs and are assumed to use that world knowledge in carrying out any program of desire or action".

Thus, folk psychology defines how children behave in social relations and how they resolve challenging situations in everyday activities. Since the world knowledge takes the form of beliefs, it becomes true and axiomatic, needing no argument in decision making. Children rely on folk theories (axioms) because they are stable and deviations from them are evident. If a deviation occurs, the meaning making process is triggered and a new narrative is composed. Children do not always need help in meaning making, but the pedagogues role is crucial in the zone of proximal development (in Vygotsky's terms).

Bruner suggests that "the division between an "inner" world of experience and the "outer" one that is autonomous of experience creates three domains, each of which requires different form of interpretation" (Bruner, 1990, p.40). The inner world is the experience of which meaning is already made, it is stored in the conceptual system. The outer world is unknown and chaotic, but unavoidable to learn about and make meaning of. Bruner (1990) clarifies:

> The first is a domain under the control of our own intentional states: a domain where Self as agent operates with world knowledge and with desires that are expressed in a manner congruent with context and belief. The third class of events is produced "from outside" in a manner not under our own control. It is the domain of "nature". In the first domain we are in some manner "responsible" for the course of events; in the third not. (p.41)

The first domain, one's inner world, is the domain of one's conceptual Self. The understanding of one's conceptual Self (agent, protagonist) is a key idea in psychoeducation. In applying psychoeducation in Statped's practice, counsellors[21] start with learning about the child's perspective, what the child means by doing particular things. They emphasize that it is important to make a child be aware that his/her actions are not meaningless, that everything he/she does makes sense for those around him/her. To achieve it, one must give a child an opportunity to talk about their and other's behaviours. Children's language reflects the inner state and gives a hint to how children understand their own peculiarities, i.e. how they make meaning of their place in the environment. I have already given examples in subsection 4.3. how children with ADHD and TS describe their states in terms of metaphoric expressions. Kristensen (2014) calls it identity-understanding or identity-development (identitsforståelse/identitetsutvikling) (pp.28-29). In other words, it is important to map the 'conceptual Self zone' in order to realize the borderline between the first domain and the second domain – the domain where a conceptual Self collaborates with others.

Another important step in psychoeducational meaning making is to show a child that what he/she experiences is part of the syndrome but not part of his/her personality. Therefore, it is proposed to make a child realize that he/she has a diagnosis, provided he/she is supplied with information and explanations. For many to learn about their diagnosis is a relief, because they stop thinking that they are obsessed (Rønsholdt, Groot, Godrim, & Bech, 2013, p.26). It is true that talking about TS, for example, can reinforce tics and aggression. However, it is necessary

[21] My observations of the counselling process by Kvilhaug during my internship at Statped- Nord in spring 20017

to do it but using a pragmatic "matter-of-fact" approach, as if talking generally and providing examples of how other children may behave and tic. Through this, a child realizes that there are other people who have these difficulties and a child accepts himself/herself. Moreover, a child understands that there are ways to handle TS, ADHD conditions etc. In Bruner's terms, it can sound in the following way: together with a child we create a narrative justifying deviation in his or her behavior. The narrative refers to other people's deviations similar to those of the child in question, thus making them canonical ('normal') for this particular diagnosis, and thus providing a basis for a child's self-acceptance.

No less important it is to help parents/teachers realize and be aware that they may make a wrong meaning of a child's situation. In the case considered by Kvilhaug, the father rejects the idea that his children (with ADHD, TS, probably OCD[22] or ODD) may be different from others. He says: *Han gjør det for å oppnå noe. Han kan jo la være, det har vi sett. Det er nok noe han bare kan skru av og på når han ønsker det, vi hadde jo aldri tics hos oss i familie.* He makes a totally different narrative: his child is naughty and spoiled, deviations in the child's behavior do not meet canonical rules of good behavior.

Statped's counselors specify that if neither parents nor teachers at school see a child's perspective, reject him/her having his/her neurobiological peculiarities, it may lead to more serious disruptive behaviours, aggression and anti-social behaviours. To make the situation manageable, the boy and his parents together with the school must make the same meaning of the situation, create a common narrative.

To make the common meaning of the situation and create the narrative understandable by all participants of the deviating situation, we need an area where participants' interests and needs can meet – the second domain, introduced by Bruner. This domain is "the second class of events that is problematic, comprising some indeterminate mix of the first and the third" (Bruner, 1990, p.41). That is what Vygotsky defined as the zone of proximal development. This is here that a child needs instruction and support in the form of imitative modelling: a set of interpretative techniques or a narrative, mitigating the effect of the unknown. Bruner (1990) specifies:

> Thus, while a culture must contain a set of forms, it must also contain a set of interpretative procedures for rendering departures from those norms meaningful in terms of established patterns of belief. It is narrative and narrative interpretation upon which folk psychology depends for achieving this kind of meaning. Stories achieve

[22] Obsessive compulsive disorder

> their meanings by explicating deviation from the ordinary in a comprehensible form – by providing the "impossible logic". (p.47)

The impossible logic in the case mentioned above is the understanding of the fact that the child's challenges are part of his diagnosis. Providing interpretation of the deviations, the counsellor makes the situation comprehensible for the child and his parents and teachers. The departures from the norms of social behaviour become meaningful because they signalize the challenges resulting from his diagnoses and from the lack of understanding by parents and teachers in the need of clear routines in his/her situation. When creating a new comprehensive and comprehensible narrative for a life situation, one does not only reduce frustrations but creates a new scenario for a life story.

This is what Bruner calls the construing power of the narrative when he explains that narrative created in an individual situation acquires the function of organizing future experience (Bruner, 2004, p.692). Bruner (2004) explains:

> Life stories are highly susceptible to cultural, interpersonal, and linguistic influences. This susceptibility to influence may, in fact, be the reason why 'talking cures', religious instruction, and other interventions in a life may often have such profound effects in changing a person's life narrative. (p.692)

This very idea about the profound effect of 'talking-cures-narratives' makes Bruner's research topical for the discussion of the application of meaning making in special needs pedagogy, particularly in supporting children with PTSD or social-emotional challenges. The creation of narratives is often used as part of the trauma-releasing exercises. Both Hobfoll et al. and Ko et al. recommend *inter alia* to create new meanings of the trauma history and subsequent experiences (Hobfoll et al., 2007; Ko et al., 2008, p.398), i.e. to create new narratives of traumatic events. Bruner (2004) explains the effect of the construing power of narrative in the following way:

> I believe that the ways of telling and the ways of conceptualizing that go with them (narratives- MM) become so habitual that they finally become recipes for structuring experience itself, for laying down routes into memory, for not only guiding the life narrative up to the present but directing it into future" because "…life is not "how it was" but how it is interpreted and reinterpreted, told and retold. (p.708)

Another aspect of the pedagogical potential of narrative is that due to its construing power, it provides the basis for imitative modelling, acting according to what the narrative-model

suggests. Bruner emphasizes: "saying and doing represent a functionally inseparable unit in a culturally oriented psychology" (Bruner, 1990, p.19). Thus, a famous principle 'learning by doing' should be reformulated to 'learning by saying and doing'. This very idea we find in Vygotsky's 'inner speech'- theory and Lakoff and Johnson's idea on metaphorical thinking and acting discussed in chapter 4 (subsection 4.2.). I cannot help mentioning Bruner's reference to Henry James who formulated this idea so wisely: "stories happen to people who know how to tell them" (as quoted in Bruner, 2004, p.691).

To make stories happen we need to create them. In practice with autistic children, one uses the so called 'social stories'.[23] Social stories are short narratives describing certain activities, situations or events. They include information on canonical rules of behaviour and explain what to expect from a situation. Social stories are used for different purposes: to establish and develop selfcare, social or academic skills (wash hands, say hello, library visit), to help to cope with new routines, behavioural strategy (when one is angry), to explain the behaviour of others etc. Social stories are based on the narrative structure presented by Bruner and include the four necessary components discussed in subsection 5.4.

A variation of a social story is a comic strip conversation, the latter includes pictures and symbols, making a story more illustrative and easier to understand (Appendix 3). Judging by experience, the stories become part of private speech of a child first and then are internalized as inner speech. The meaning rendered by a social story becomes shared with all those around a child. That is what Bruner (1990) emphasizes as crucial for survival:

> Our culturally adapted way of life depends upon shared meanings and shared concepts and depends as well upon shared modes of discourse for negotiating differences in meaning and interpretation…The child does not enter the life of his or her group as a private and autistic sport of primary processes, but rather as a participant in a larger public process in which public meanings are negotiated. (p.13)

Interestingly, internalization of the meaning rendered by a social story, is only then completed if it occurs through personal mental-emotional experience. It is not enough to make a child memorize the text, to make a child understand what happens when deviations from the canonical rule in the story occur. It is important to recollect here that imitative modelling presupposes re-creation of someone's mode of behavior as one's own. For an autistic child, a social story has nothing to do with him or her, thus re-creation as one's own is not easy. If

[23] 'a social story'™ is a trademark originated and owned by Carol Gray (1991).

deviation in child's behavior occurs- a child rejects to act in accordance with the rule of a social story – the rule becomes part of his or her personal mental-emotional experience, and the story becomes meaningful. For example, the social story of 'washing hands before eating' was presented on beforehand and the consequences of its deviation were discussed, but it only then became meaningful when a child had to act according to the rule, despite his disgust to all liquids on his hands. Through this personal mental-emotional experience, a child realized the difference between canonical and deviating which gave a very positive result. Bruner (1990) explains that the crucial moment here is:

> the ability not only to mark what is culturally canonical but to account for deviations that can be incorporated in narrative. The achievement of this skill, …, is not simply a mental achievement, but an achievement of social practice that lends stability to the child's social life. (p.68)

To conclude, I have attempted to show in this section how work with the conceptual Self in psychoeducation can contribute to a better meaning making and help to define the limits of the zone of proximal development. I have also tried to illustrate how narratives can operationalize Vygotsky's imitative modelling and personal mental-emotional experience when applying social stories with autistic children. The pedagogical potential of narratives could be larger than that. One can apply them in pedagogical practice with children who have behavioral problems (ODD; OCD), concentration challenges (ADHD), social-emotional difficulties (PTSD), language impairment etc.

Chapter 6. Summary and conclusions

The master thesis has aimed at examination of the genesis of the theory of meaning making in Vygotsky's pedagogical-psychological theory of child's development and the analysis of the evolution of the meaning making theory within the cognitivist and the social constructivist approaches. It has also been questioned if this can provide a basis for a discussion of applicability of meaning making in special needs pedagogy. In order to achieve the objective, the following research questions have been posed:

-to describe and discuss relevant pillar concepts regarding meaning making in Vygotsky's holistic theory of child's cognitive, linguistic and social-cultural development;

- to analyse how Vygotsky's original framework ideas can be understood and operationalized with the help of new research within the cognitivist and the social constructivist approaches to meaning making.

- to clarify how these two approaches converge with Vygotsky's ideas, how they contribute to the theory of meaning making and how new knowledge within them opens up for new perspectives in pedagogical contexts.

This chapter aims at presenting the most important of my finding and conclusions which allows to arrive at the conclusion that special needs pedagogy has the capacity and potential for the application of meaning making to treating children with developmental peculiarities. The conclusions and findings are presented in three groups in correspondence with the research questions.

Vygotsky's framework ideas

Vygotsky's' theory of child's development is comprehensive and complex, I have scrutinized only those pillar concepts which have significance for child's meaning making. In the course of reading and examination of Vygotsky's theory, it has become possible to point out, describe and discuss a the following framework ideas:

1. Understanding between people through verbal communication is possible because of the word meanings belonging both to the plane of thought and the plane of language. People construe the reality in a generalized way in their conceptual systems, and language actively participates in this meaning making process.
2. Each stage in child's development is characterized by its own combination of mental functions in cognitive (psychological) systems. When in-born mental functions acquire

voluntary and conscious character (i.e. become higher mental functions), meaning making in terms of everyday (spontaneous) and academic concepts becomes possible. The appearance of intellectual speech and verbal thinking are decisive for the establishment of child's conceptual systems.

3. Children do not perceive the world chaotically but in terms of certain patterns or categories. When perceiving objects or phenomena, children gradually start to categorize them with the help of words and, thus, make meaning of them. Children tend to ascribe meaning to senseless situations (pictures, events, circumstance etc) and, thus, memorize information when there appear a pattern/structure in this information. Children can either recognize or create a pattern to make information (situation) meaningful. Human minds are tuned to recognize and build patterns.
4. A child is born equipped with a whole range of pre-linguistic cognitive tools aimed at social communication. A child's first pre-intellectual speech and its later intellectual version is also socially oriented. When thinking becomes verbal, social speech turns to a child himself/herself and becomes private. Private (egocentric) speech plays a crucial role in child's self-regulation and establishment of executive functions. Private speech does not die out, it becomes internalized, changes its form and becomes inner speech, part of verbal thinking and a means of self-guidance. Inner speech's function is to connect the outer reality and the inner world of a person.
5. The pre-stage in concept formation is the appearance of mental units of different designation, basically complexes. Child meaning making is situationally and specifically conditioned and it relies on generalizations of perceptions. Due to the lack of cognitive abilities to construe concepts, a child needs to rely on common sense and world knowledge. Meanings, a child makes, are similar to those of an adult, because a child internalizes cultural and cognitive tools already given in adults' language.
6. Everyday concepts appear spontaneously as a result of a conscious effort to form a concept when finding a solution for a socially meaningful task. Academic concepts arise as a result of a conscious effort to internalize a meaning of a given concept in an instructional setting.
7. Socially meaningful activity allows children to extract cognitive and cultural tools from their society (instrumentalism). This is possible because of the imitative modelling which is internalization of the given model of behavior (way of thinking or meaning) and re-creation of it as one's own for the purposes of own use.
8. Mental functions, conceptual systems, socially meaningful activity with adult participation within the zone of proximal development constitute the basis for successful meaning

making. Personal mental-emotional experiences pave the way to individualized meaning making. They are internal attitudes of a child to a moment of reality refracted through motivational sphere of a child; they determine how this particular moment will influence the course of the further development of a child. Thus, the importance of personal mental-emotional experience for child's meaning making must not be underestimated.

Lakoff and Johnson's and Bruner's contribution

In the course of analysis of Lakoff and Johnson's theory of conceptual metaphor and Bruner's theory of folk psychology and narrative structuring of reality, it has become possible to realize how Vygotsky's ideas can be understood and operationalized due to the explanatory potential of subsequent cognitive and social constructivist research.

1. Vygotsky outlined the principle of 'participation' (партиципация) underlying the initial process of cognizing the world by children (primitive thinking in Vygotsky's terms). Participation is understanding objects and phenomena in terms of other objects and phenomena due to which objects can enter different complexes (domains) and get different names. Lakoff and Johnson's theory of metaphorical thinking discloses, reveals and explains how the lines of generalization (Vygotsky does not explain their nature) operate in conceptual categorization of child's experience in terms of ontological, orientational and structural metaphors.
2. Vygotsky paid much attention to the explanation of the development of complex thinking which results in the appearance of everyday spontaneous concepts. He did not, however, explain substantially how spontaneous concepts arise. Lakoff and Johnson's theory reveals the essence of this process. Primary metaphors based on experiential gestalts possess some prototypical features and are only partly structured, in fact they are open-ended. Prototypical features allow juxtaposition of concepts (domains) and open-ended edges of concepts allow metaphorical (conceptual) shift. Since the lines of metaphorizing are inherently built in the language and are based on the systems of cultural values of a linguo-cultural society, a metaphorical shift remains within the established tracks of the basic cognitive metaphors. At the same time, open-ended character of cognitive metaphors opens up for 'a new metaphorical reality'. Thus, on the one hand, metaphors contribute to stabilization of the meaning making process providing familiar lines of conceptualization of the unknown and abstract in terms of the known and concrete; on the other hand, they open up for new understanding of familiar situations or phenomena.

3. Lakoff and Johnson's cognitive metaphors seem to render the essence of Vygotsky's instrumentalism. In their meaning making, when acquiring cultural and cognitive tools of their society, children rely on the meanings given in the speech of adults. Vygotsky's over-concepts or Lakoff and Johnson's cognitive metaphor are repositories of practical, social, cultural, axiological experience of the society. Via the use of linguistic (also trite metaphoric) expressions, adults provide knowledge of the social reality. Internalized cognitive metaphors are cognitive and cultural tools used by children further in mapping and categorizing new phenomena in personal (individual) meaning making.
4. The idea of Vygotsky's verbal thinking is further developed in Bruner's research. Bruner's syntagmatic linear thinking based on folk theories and narrative meaning making operationalizes Vygotsky's ideas on a pattern-oriented mind of a child and imitative modelling as a basis of world comprehension and learning. Vygotsky emphasizes that child's meaning making is situationally conditioned and relies on adults' world knowledge and common sense in understanding of new situations. Bruner's folk psychology discloses what adults' world knowledge comprise. The substrate of folk psychology is culture and that is how Bruner connects culture (cultural instruments), mental processes (mental functions), learning (imitative modelling) and an individual's narrative meaning making (personal mental-emotional experience).
5. Vygotsky mentions in passing, but emphasizes its importance, the pre-intellectual stage in speech development of a child. Bruner manages to connect the biology and the culture of meaning. Bruner's explanations of child's prelinguistic readiness for meaning, the innate gift for language reveals Vygotsky's theory of in-built mental functions, especially pre-intellectual speech and pre-linguistic thinking. Besides, Bruner's research reinforces Vygotsky's conviction of the initial social character of language (Vygotsky's most important argument in his polemic with Piaget).
6. Vygotsky's focus in all his research was on child's consciousness, child's inner world encompassing mental process, conceptual systems and voluntary-emotional (motivational) sphere. Bruner's research of the importance of child's conceptual Self and its role in narrative-building operationalizes Vygotsky's unfinished idea on personal mental-emotional experience of a child. Narrative contains a narrator's perspective, reveals intentional state of a narrator, his explanation of the deviation from the canonical and defines what is important for a child's future development. This is exactly what Vygotsky implied when introducing the significance of 'perezhivanie' (переживание).

Convergence of ideas and pedagogical potential of meaning making

From the above-said it has already become clear that many of Vygotsky's ideas on meaning making converge with Bruner's and Lakoff and Johnson's ideas. The most vivid convergence of them is their similar understanding of the processes involved in child meaning making: the strong interconnection of language, thinking and activity. Also, their comprehension of the evolvement of modes of thinking and their operational units is another example of such a convergence (see Appendices 1 and 2). It is also important to conclude how contributions from these approaches open up for the perspectives of the use of meaning making in pedagogical contexts, especially in special needs pedagogy:

1. Lakoff and Johnson's idea that our conceptual system defines our everyday reality is the cornerstone for application of metaphor in pedagogical context. Since communication is based on the conceptual system used by children in thinking, speaking and acting, language is an important source of information about child's conceptual system and a tool with which we can impact its development. On the one hand, when interpreting child's linguistic expressions (social or private speech), we can realize what his world vision on a certain situation is like. For children, especially in emotional situations, it is easier to describe unknown, strange or abstract feelings and thoughts in terms of concrete and known phenomena, anchoring them with an image from their personal mental-emotional experience. This can cause relief from mental chaos, and stability because of the materialized nomination. On the other hand, due to metaphor's potential to create new realities through changing slots in open-ended domains of the established cognitive metaphors, we can help to create a new understanding of a problematic situation. The illustrations used in the text show that metaphors can successfully apply in the situations when children experience behavioral, social and emotional challenges (AD/HD, TS, ODD, OCD, PTSD etc). However, due to the use of figurative lines of generalization in metaphors, they cannot probably be as effective in ASD or SLI. Still, equipped with the strategy to use metaphor with the purpose to catch and bind unknown experience to a concrete image (limit freedom of conceptualization) or/and also to widen and expand an understanding of a problematic event, a child becomes an active participant in his or her own meaning making.
2. Due to its unique characteristic to justify departures from the canonical, narrative can become an important tool in special needs pedagogy. It allows to both learn the cultural and social codes, sustain identity-understanding or help in its formation, and cure challenging or traumatic experiences by way of explaining deviations from cultural commitments.

Narrative can be both a pattern for imitative modelling and a means of expressing personal mental-emotional experience. Narrative has already found its way into psychoeducation applied in special needs pedagogical practices and seems to be effectively implemented there. Besides, in the form of social stories and comic strip conversations it has become an effective strategy for children with autism.

My findings and conclusions support the urge for "a shift in thinking away from regarding children as the passive victims of harmful experiences, towards perceiving them as social actors with their own views and strategies for actively coping with challenges in their lives" (Graham, Phelps, Maddison, & Fitsgerald, 2011, p.480). Assisting children in their meaning making, either applying cognitive metaphor or narrative, special needs pedagogues supply them with cognitive and cultural tools which children can internalize and use as their own, actively and independently in their future lives. To this end, more research, evidently empirical, on practical application of meaning making strategies in special needs pedagogical contexts is required.

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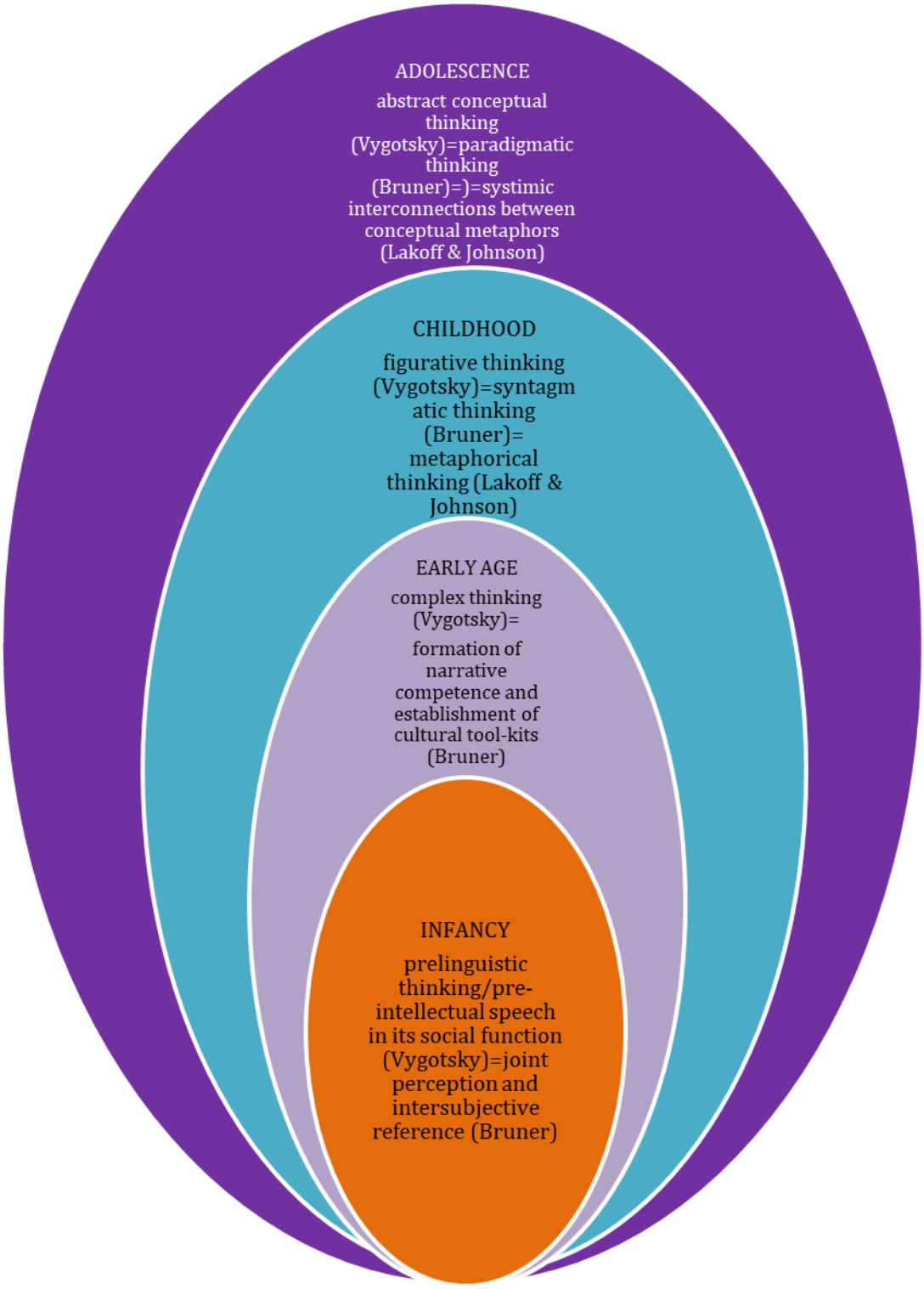
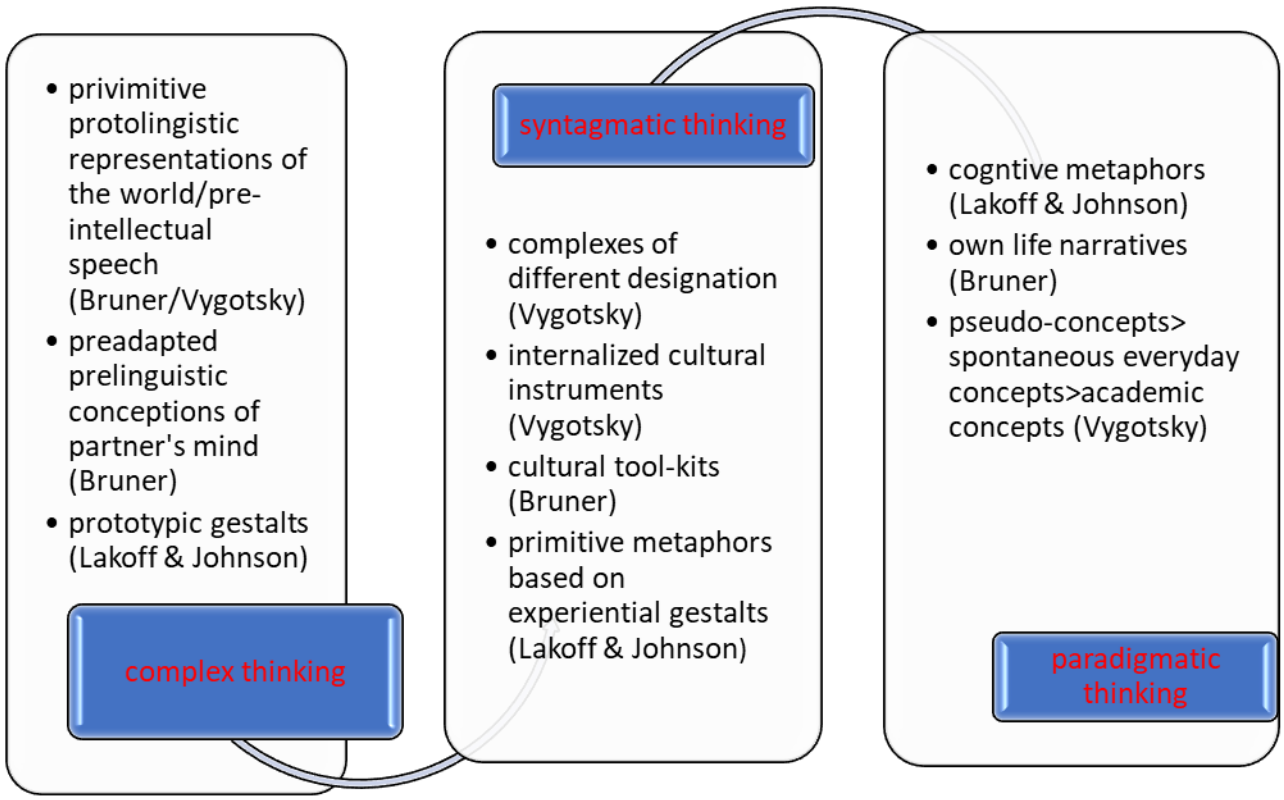
Appendix 1: Modes of thinking at different age



*It must be noted that borderlines between the areas are fuzzy. The areas overlap. For example, complex thinking based on the principle of participation gradually transforms into figurative thinking, i.e. metaphorical thinking.

Appendix 2: Operational units of different modes of thinking



Appendix 3: Comic strips

@Marianne A. Kjelstrup, 2018

Appendix 4. Glossary

Vygotsky's terms

Meaning – an internal side of a sign, it belongs to the sphere of speech to the same extent as it belongs to the sphere of thought. It is thought created in a word, it is the path from a thought to a word. It is the internal structure of a sign operation.

Meaning making – an extraordinary verbal act of thought, a unity of generalization and communion, communication and thinking. It is the process of categorizing phenomena of reality in a generalized way in the course of verbal communication between people.

Mental function – a cognitive process of learning about and responding to the environment for the purpose of survival. It is an in-born mental ability (perception, memory, language and thinking etc.) which acquires voluntary and conscious character in the process of maturing.

Verbal thinking – the unity of language and thinking that retains all the properties that belong to speech and thought as a single process.

Private speech – speech of a child accompanying child's actions, which mediates thinking in the course of practical activity. It is an important tool of self-guidance. It is also known as crib speech in later research.

Inner speech – silent speech for oneself, a tool of self-regulation, an inner dialogue with one's conceptual Self in the process of meaning making

Everyday (spontaneous) concept – a result of child's own experience in the outer world when a child comes across a socially meaningful task which is impossible to solve without a conscious effort to form a concept.

Academic concept – a result of a child's conscious effort to internalize a proposed concept in an instructional setting in the process of formal schooling. This effort begins with an understanding of a verbal definition of the given concept and implies a voluntary application of this concept.

Instrumentalism – extraction and internalization by a child of the cognitive and cultural tools characteristic of their linguo-cultural society given in adult speech and language for the purposes of individual meaning making.

Zone of proximal development – a sphere of a child's potential abilities which develop through cooperation with an adult

Podrazhanie (подражание, imitative modeling) – the content of the zone of proximal development which consists in the internalization of somebody else's model of behaviour or meaning through the prism of personal mental-emotional experience ('perezhivanie' – in Vygotsky's terms) and recreation of someone's model of behaviour or meaningful life strategy as one's own.

Perezhivanie (переживание, personal mental-emotional experience) – an internal attitude of a child to a moment of reality refracted through his consciousness and determining how this moment will impact the course of the future development of a child. It implies both cognitive processing and emotional involvement and results in an individualized imprint of the moment in a child's consciousness.

Participacija (партиципация, participation) – the basic principle of categorization in primitive thinking allowing to cognize and experience objects and phenomena in terms of other objects and phenomena.

Lakoff and Johnson's terms

Cognitive metaphor – a way of understanding and experiencing of the unknown or abstract in the outer reality in terms of concrete or known phenomena or objects. Cognitive metaphors are both instruments of mapping and cognizing the reality and repositories of social-cultural heritage of a linguo-cultural community. Due to cognitive metaphors our experience is conceptualized in the systems of structured gestalts possessing prototypical features. Open-ended edges of conceptual domains allow a metaphorical shift and reconceptualization of experience.

Primary metaphor – a basic cognitive metaphor acquired by a child automatically and unconsciously through adult speech. It is an atom-metaphor containing conventionalized meanings of reality. There are three types of such metaphors: **orientational, ontological and structural** metaphors. Orientational metaphors are based on spatial orientations of our bodies' functioning in the physical environment (e.g. SOMETHING is UP). Ontological metaphors allow understanding our experience in terms of objects and substances (e.g. WORDS are CONTAINERS). Structural metaphors involve structuring of one kind of experience in terms of another kind of experience or activity (e.g. SEEING is UNDESTANDING).

Bruner's terms

Narrative – a form of discourse and a mode of organizing experience. It is a selective achievement of memory recall allowing justification of the departure from canonical rules. It provides a framework for understanding the past events of one's life and for planning future actions. It is the primary scheme by means of which human existence is rendered meaningful.

Syntagmatic thinking – a mode of thinking associated with linear timing of the reality describing the sequence of events. Our everyday thinking is syntagmatic by its nature. This thinking includes a subjective perspective upon the reality and is situationally conditioned.

Paradigmatic thinking – a logico-scientific mode of thinking which attempts to fulfill the ideal of a formal, mathematical system of description and explanation. It employs categorization or conceptualization and the operations by which categories are established, instantiated, idealized, and related one to the other to form a system.

Folk psychology/folk theory – a set of more or less connected normative canonical descriptions/dispositions about the outer world, what our own and other minds are like, believes and commitments. It is the world knowledge based on common sense.