Socio-cultural theory and the "New Man": from post-revolutionary Russia of 1917 to the challenges of contemporary times

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Abstract

The aim of this article is to present the influences that the Soviet historical context of the Russian post-revolution of 1917 had on the construction of cultural historical theory, mainly in the perspective of the creation of a new society and a new man.. The predominance of the Marxist-Leninist vision inspired the thoughts of Lev Vygotsky, Alexander Luria and Alexei Leontiev on human development and learning. We also discuss some applications to the process of teaching learning that historical cultural theory, elaborated in the Soviet historical context, has managed to achieve. For example, the importance of mediation for the learning teaching process; the development of defectology and its influence on inclusive education and the contributions to the neurosciences that had repercussions in the school education. The methodology used was the bibliographic review. We conclude that understanding the context in which this theory emerges can bring significant contributions to the understanding of the cultural historical approach in our day, such as its potential, its limitations, its challenges and perspectives. The thesis on the importance of speech in social interaction as a promoter of development and the prospective approach of man as a come to be with the mediation of the other, opens a hopeful path for the education of present and future generations.

Keywords: Vygotsky, Defectology, Learning Neurosciences, Mediation in Learning.

1. Introduction

The thought of the principal representatives of socio-cultural theory, Vygotsky, Luria and Leontiev,

was born in a certain context of the post-revolution that occurred in the former Soviet Union. There was a Zeitgeist that permeated the elaboration of cultural historical theory. This was committed to a prospective vision of new society and human being, if not unprecedented in the history of mankind.

The impact of the Russian language should also be considered, for example, in the choice of the term used by the crack to refer to the teaching and learning process. According to Oliveira (2010), the term derives from the Russian word *obutchenie*, which means something like teaching learning occurring together and inseparable. Prestes (2010) criticizes the translation of the Russian word *obutchenie* into English, when this took on a limited meaning by pragmatism and interest in inserting cultural historical theory into the box of learning theories. O*butchenie* describes a guiding activity, an active synthesis between teaching and learning that engenders development. That is, teaching-learning is always ahead of development, as a cause for development. The teaching-learning does not need a previous development and nor walks along side of the development. Vygotsky sought in Karl Marx's thought the meaning for what he meant by *obutchenie* understood as a form of guiding activity. Marx asserts that man uses the instruments of labor in every historical and social context, changes the external nature, and thus changes his own nature. *Obutchenie* is also defined as an autonomous activity of the child oriented by an adult or colleague and causes it to appropriate cultural products and contextualized human experience itself (Prestes, 2010).

Keeping in mind this discussion of the original meaning of *obutchenie*, from now on we will use the expression teaching-learning as an attempt at translation. The idea of an active being appropriating knowledge is contained in teaching-learning as thought in the originality of cultural historical theory.

The traditional view on education, influenced by the positivist paradigm, thinks the process of teaching-learning in a neutral way and away from the conjuncture of the social, economic and political context. On the other hand, constructivist approaches in general, and cultural-historical theory in particular, think the social context making it the starting point for school learning. And not merely the reproduction of capitalist relations and of dominant ideologies that may be implicit in the presupposition of a neutrality. With this the current apathy of many classrooms can be transformed by a more instigating vision. Empowering students about how school knowledge can lead them to achieve their interests and promoting substantial changes in the teaching-learning process.

2. The influence of the Context

Lev Semyonovitch Vygotsky was born in the Orsha city, Belarus, on November 5, 1896. From the Jewish family he received primary education from a Jewish mathematician named Saloman Ashpiz. During his academic life, he studied Law, Literature, Medicine, Philosophy, but it was in Psychology that he went deeper and left his great legacy for humanity. In 1924 he was invited to participate in the Institute of Russian Psychology, where he worked with important collaborators of his work as Alexander Luria and Alexis Leontiev. Luria was introduced to Vygotsky in 1924 at the II Congress of Psycho-Neurology in Leningrad, and describes him as a brilliant mind, ahead of his time, a genial man. (Luria, 2016).

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aiming to find a general theory of human development (Riviere, 1985). There were also practical needs in their studies, such as working with vulnerable children. Many of them with disabilities such as blindness, deafness and mental deficiency. The Soviet Government instructed him to draw up educational proposals for this demand. In this way, he created the Experimental Institute of Defectology in 1929.

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It is incontestable how much the Russian Revolution of 1917 influenced the scientific direction of Vygotsky as a researcher of that troubled but hopeful period. He experienced the early years of the Bolshevik Revolution of October 25, 1917. Russia came out of World War I with its problems. The Tsarist government (1547-1917) ended up having to leave the war because it fought a battle on its own territory. In a first act, he faced the Menshevik revolt, but remained in political power. Soon afterwards, the Bolsheviks seized power and ended 370 years of Tzarist absolutism in Russia, triggering a bloody war between the Tzarist government and the Red Army organized by Leon Trotsky.

The Russian Civil War brought profound consequences to an agrarian country and industrially backward like Russia. With 95% of its population illiterate and with the consequences of the military confrontations marking its economy and its politics and, as victims of these struggles, thousands of the underprivileged. It is in this context that there was a scientific effervescence based on the need and hope of building a new society and a new man.

Vygotsky was of Jewish family, of good economic situation. Bortolanza and Ringel (2016) say that at that time there was persecution and prejudice against Jews in Belarus, where Vygotsky was born, lived and studied. To be admitted to the University of Medicine, dream of his parents, he adapted to a college that guaranteed them such rights. He also studied at the Shaniavisky People's University, where he had contact with the social sciences. After spending some time in Moscow, he returned to Gomel, a city situated in his native region where he had his first contacts with disabled children, which awoke him to study this area. He worked on it with deaf, blind and mentally handicapped children. Sometime later, he returned to Moscow and inserted himself in the context of the Russian Revolution.

The new government brought with it new social demands. According to Bertolanza and Ringel (2016), the new government democratized the culture to end illiteracy, created the Faculty of Labor, opened jobs in public education, accelerated the training of workers and multiplied libraries.

In this period, Lenin urges youth to engage and not be isolated in schools and colleges, but participate with their respective formations in the education of workers and peasants. Great projects to combat illiteracy and also the construction of the economic development of the new nation was a new challenge to that youth. In the 1920s, the Union of Soviet Socialist Republics was born, or simply the Soviet Union. His government uses culture and education to build the socialist project in the country. Art and education served to consolidate the vision of the new man and a collective conscience. This reflected mainly

in the human sciences. According to Bertolanza and Ringel (2016), in Belarus these sciences started to develop the so-called "new man". The investment in developing the potential of each child and each young person took shape. This new conception of society thrilled the new scientists who enjoyed the incentives of the communist state.

There was also a social context marked by a serious economic crisis. The crisis of supply that led to the death between 1920 and 1922 of 13 million people, including millions of children. The birth of the Soviet Union brought a challenge for its reconstruction, a country with a population with immense cultural, ethnic and territorial scope. This was the basis for Vygotsky's research, such as semiotics, the importance of speech and the interest in understanding the impact of cultural diversity on the development of each subject. The new country had 15 republics, 20 autonomous republics, 8 autonomous regions, 10 autonomous areas, 100 ethnic groups, 80 different languages and 5 distinct alphabets, becoming a gigantic scientific experience and quite challenging.

The Soviet government wanted solutions to this demand and, according to Bertolanza and Ringel (2016), sponsored the new researchers and scientists for this purpose. In this sense, Vygotsky allied himself to this context and at the same time had this help for a certain theoretical freedom. He had much influence from the Marxist-Leninist current in his theoretical thinking. According to Dalla Santa and Baroni (2014), Vygotsky was a Marxist thinker and used the Marxist work in search of answers to his theoretical problems. He used the Marxist concept of work and created the concept of mediation as a conscious action mediated by the instruments that, on the psychological plane, are the culturally constructed signs in social and historical contexts.

Vygotsky, in the effervescence of these transformations, sought to study the processes of human transformation in the phylogenetic, ontogenetic and sociogenetic dimensions. (Riviere, 1985). At one point, when the Soviet Union was under Stalin's rule, Vygotsky did not revere Stalinism and its vanguard vision of the party. He chose dialectics as a method having much more affinity with the essential foundations of Marxism with Hegel's thought.

Gradually Vygotsky was distancing himself from the demands made by the Soviet government. He was struggling to do a research centered on scientific status, so he did not agree with any current of Soviet psychology in his context and sought other influences, such as gestalt and cognitivism. His use of the dialectic was not dogmatic, but a framework for understanding a problem and situating it in a dialectical genesis. In this Soviet context, Vygotsky endeavored to create a new man, not as the Leninist proposal of the "Homo Soviets", but with the sense of the one. Not as collectively determined, but as unique in its constitution. Hence, he was censored and had some of his publications forbidden by Stalin, especially his studies on pedology, understood as the science of the child. This is because although Vygotsky uses dialectical-historical materialism, his works have been labeled, even with this influence, right-wing ideas or right-wing Marxism. Luria said that Vygotsky was going beyond Marxism with his theses.

Thus, Vygotsky became the main reference of the historical-cultural approach. Although many vygotskyanas theses were developed and deepened after its death by Luria and Leontiev. Vygotsky argues that human characteristics (higher psychological functions), unlike the Piagetian approach, are not present in man from birth but are produced in relation to historical and cultural processes. In this thesis, we can see

the influence of Marx's thought according to which man is the product of the cultural, social and material transformations elaborated in history. (Engels, 1979). The child is born with its primary (biological) or elemental psychological functions. Only in the contact with the social and cultural world acquires the higher psychological functions (language, conscience, voluntary attention, memory, etc.). The child will form his mind through the active internalization of the cultural heritage built up by mankind thus far. In this context, the individual will not develop alone in contrast to the Piagetian perspective that bets on a child's self-determinism to learn. Vygotsky bets on the interaction of the child with an adult or a more capable person in the field to be learned, in order to arrive at socially validated knowledge. This was also known as a socio-interactionist approach.

Another thesis of Vygotsky concerns a semiotics of culture. Once again influenced by historical materialism, he affirms that man is not separated from the social and cultural environment in which he lives, just as he does not have a passivity towards it, but receives cultural and social influence that will be interpreted in an active internalization process . The language, concept worked by him in the book Thought and Language (Vygotsky, 2008), is formed by signs that are produced in the social context that the subject participates actively. Thus, each subject is also a constructor of the culture in which it is inserted.

Vygotsky left deep marks in scientific research on human development, many of them unfinished. He had an early death caused by tuberculosis in 1934 at age 38. Vygotsky's research on the formation of human thought, and especially on the importance of signs and language, will gain widespread recognition in his country only after his death, for his work has for a time been banned in the Soviet Union. His book “Thought and Language”, for example, had its first publication in 1962 in the United States, thanks to Luria's commitment. In fact, it was Luria, Leontiev and others to continue and publicize the work of Vygotsky.

3. Contributes to the transformation of man through the process of teaching learning

As previously shown, cultural historical theory built its assumptions based on the Soviet context of 1917 and its legacy has reached several areas of knowledge. These presuppositions, each in its own way, influenced with its discoveries the teaching-learning process. We had the important contribution of cultural historical theory in the mediation applied to the construction of knowledge in the teaching-learning process, in research on the brain and its applications to neuroscience and the impact of defectology on inclusive education. Each of these contributions will be presented below.

3.1 – Mediation and the transformation of man by speech

A fundamental thesis of Vygotskian thought is that the relation of man to the world is not direct but mediated. This conception plays a primordial role in the teaching-learning process. Humans use and need the mediation that is done through the signs and instruments. The signs are the symbolic representations or indices that the human being elaborates from the concepts learned about the objects inserted in its culture. In this way, signs are constructed culturally and socially by humanity, and transmitted, mainly by speech. Thus, speech is a form of social instrument. The term instrument, Vygotsky retrieved it from Marx's thought in which they are constructed by men according to historically created modes of production. Thus, the

instruments transform themselves according to historical transformations and, consequently, transform the man who created them (Engels, 1979). Since speech consists of signs, that is, symbolic social instruments, the speech created by man transforms this man according to the historical cultural context. In this sense, speech fulfills the primordial role in mediating between the adult and the child. Through the mediation of the speech, the child initiates the active internalization of the signs constructed by humanity in the course of time. (Vygotsky, 2008).

We realize that signs and instruments play an important role in Vygotsky's work in understanding human thought. For him the signs make the interaction of the individual with the world. Through the signs, the subject can remember, report, make decisions and choose to interconnect with the object in a symbolic way, that is, in a way that is not direct. These signs are the symbolic representations that this individual makes of the world around him and that constitute his thought. These representations free men from the need for direct interaction with objects. Signs are oriented to the subject and will build their higher psychological actions, that is, their way of being in contact with the world, with society and with themselves.

We choose the word "speech" to assume the meaning of a symbolic instrument, since it is linked to Vygotsky's original thought. According to Prestes (2010) the word "language" is not appropriate for Vygotsky's thinking. The Russian word "*retch*" is closer to the sense of "speech". Vygotsky argues that speech and thought are distinct psychic processes that come together in ontogenesis, early in childhood, and form verbal thinking. From this amalgamation between speech and thought, human thought is always linked to a symbolic representation provided by the use of speech. Speech is one aspect of language. But the language is broader. In this sense, not everything that refers to language concerns speech, but everything about speech is in language. Another argument of Prestes (2010) is Vygotsky's study of oral and written speech. He made important discoveries in this direction and claims that it is wrong to judge children's mental development by their written compositions, especially in the early years. Hence our choice for speech rather than language, for we believe we are in agreement with its original thinking.

Therefore, speech is a *sine qua non* instrument for the construction of thought. In fact, the concept of speech is for Vygotsky just as the concept of instrument is for Marx. For the instruments are external elements that change according to social, historical, cultural and economic transformations. And so is speech. In Marx the instruments dictate the ways of working the modes of production and these form the way of thinking of the man who is inserted in them. In a similar way, Vygotsky thinks of speech as an instrument that undergoes all social, cultural, historical and economic influence. This speech, in turn, forms the thinking of man. That is, by speech the way of thinking can be transformed. In Vygotsky says that: "Words as a means of communication with one another and as a generalization of experience play a central role not only in the development of thought but in the historical evolution of consciousness as a whole: The conscious word is the microcosm of human consciousness "(Vygotsky, 2010, pp.8-9).

Based on this principle, Vygotsky deepened his understanding of the role of speech in the construction of thought. He expounds this in several chapters of his book: "Thought and Language". From speech as the definitive separation of man from other species, even in the articulation of this as thought, which is also present in the book "The Social Formation of Mind." Vygotsky will speak of the evolution of this speech in the child with affective-cognitive thinking (crying, babbling, etc.). Then the phase of

intellectual speech, which is the encounter between speech and thought. Verbal thinking will be the product of this process.

Another important component for Vygotsky's understanding of the function and potential of speech is meaning. Being aware of the relevance of meaning is essential, for it is there that thought and speech come together to form verbal thinking, resulting in social exchange and generalized thinking. The meanings are in constant transformation, since they are produced in the socio-historical-cultural of the individuals.

The thesis on the importance of speech in social interaction as a promoter of development and the prospective approach of man as a come to be with the mediation of the other brings a hopeful perspective for the education of present and future generations if we compare with dominant views in Brazilian education in the last century. (Rezende,2009) specially in the 1980s where the individual was involved in the learning process dominated by the military dictatorship (1964-1985). This dictatorship formed a passive apprentice, to become a passive citizen who did not bring into question the status quo. Then, with the passing of the years and the implementation of democracy in Brazil, the challenge of rethinking education emerges from paradigms that put the student as a being who could hope to actively build his future..

By this necessary approach of the previous knowledge, one notices how important it is to understand the construction of the knowledge through the historical cultural theory of Vygotsky. In the fragment of the first translation of "Thought and Language", Vygotsky establishes three moments that are the levels of actual and potential development, and the zone of proximal development located between these two levels, described as follows by Coll *et all* (2004, p.156).

> "In the socio-interactionist view there are three levels of learning development, level of real development that the child owns or does alone, which he can achieve with the help of an adult that is the potential level of development and among these is what he will instrumentalize in the school that is the level of proximal development ".

According to Prestes (2010) the zone of proximal development lost its original meaning when translated into English. This meant that this concept was less Marxist and less committed to the socialist regime. Thus, zone of proximal development became very widespread and also very banalized. And the expression in Russian chosen by Vygosky was *blijaichego razvita*. In the original sense Vygotsky uses this expression to refer to a development zone with possibilities. The proximal term used in English means something immediately and with observable results. This is not what Vygotsky thought. The *blijaichego razvita* is intended to demonstrate functions not yet matured, but which are in process. Thus, it would be something like zone of imminent development, with characteristics of possibilities of development. Thus, we will continue in this text with the meaning that has become popular as a zone of proximal development. However, it is necessary to keep in mind the original sense of development possibilities zone

The proximal zone of today will be the actual level of development tomorrow (Vygotsky, 2006). The so-called proximal zone of development can be defined by Antunes (2012, p.229) as: "The distance between the level of resolution of a problem or a task that a person can achieve by acting independently and the level that can be achieved with the help of other people (parents, teachers, colleagues and others) "

These stages of development theorized by Vygotsky, bring us to the fore new paradigms with greater participation of the student in the process of teaching learning. Consequently a greater interest of the student by the process. Considering that their social and cultural background is taken into account, as well as their participation as fundamental, also increases the responsibility of the teacher. For Azevedo (2014) the teacher plays an extremely important role as mediator between the student and the knowledge, modifying the learning with problematizing, questioning and dialogue activities. Involving problem solutions and leading to concepts for students to build their knowledge mediation is a crucial point in the learning process within Vygotsky's theory, it brings to the teacher's work greater challenges. The teacher becomes a questioner and suggests a change from the teacher of traditional teaching to a mediating and guiding teacher. Therefore, Vygotsky's theories about learning development zones and their construction through teacher mediation are of fundamental relevance in the construction of these new paradigms for education.

3.2 – Defectology

As has been said Vygotsky also influence inclusive education, as he has worked hard with people with disabilities at the Institute of Defectology in Moscow. He sees important approaches to coping with inclusion such as compensation, mediation and the right of these children to have individualized follow-up.

The defectology was subject described by Vygotsky and his collaborators, like Luria and Leontiév. During his studies in the Soviet Union, in the decades of 1920 and 1930 was elaborated his work "Foundations of the Defectology". In it, they address the limitation of the psychology of their time, supported only by quantitative research, carried out on children with disabilities. For them, this premise in quantification created methods and strategies that did not fit with the work with the disabled, only served to measure the degree of the defect, but left aside the defective. It also cites other currents such as anatomists and physiologists, which were based only on quantification, calculations, differentiations, but set aside the peculiarities of defective children.

For this reason, cultural historical theory proposed the creation of defectology as a science of specific objectives and methodologies of its own. This new science was based more on the qualification than on the quantification, with the premise of doing works so that the defective child could overcome his difficulties. In this sense, the concept of compensation and overcompensation was elaborated, which will be discussed later. Vygotsky relied on the studies of Sten and Adler, who worked on this term of compensation and proceeded from the assumption, which also refers to Nietzsche: "What does not kill me strengthens me." Compensation as a child's reaction to the defect is central and basic to defectology, and this assumption will be central to inclusive education.

In inclusive education Vygotsky left fundamental theoretical legacies such as social compensation applied to students with disabilities. This legacy was part of a larger view of Vygotsky himself who was to understand the aspects of the social genesis of higher psychological functioning and to create his general theory of human development (Riviere, 1985). Social compensation would be a reaction of the subject to disability, in order to overcome limitations based on artificial instruments such as symbolic mediation. For this Vygotsky fought for the creation of a new vision in the Soviet Union with regard to children with

disabilities. The relation with the other for the disabled student emerges from the socio-psychological plane, in this exchange is located the triggers of possibilities for him.

According to Freire and Costa (2015) in compensation the defect acts as an incentive to increase the development of other functions of the organism. It activates and awakens the body to redouble the activity that will compensate for the defect and overcome the difficulty. The defect acts as a developmental stimulus. The defect also contains the stimulus for the formation of compensation or overcoming. The high tendency towards development is originated by the defect, the law of compensation and overcoming reveals the creative character of development .

Vygotsky also defended the concept of plasticity in the construction of the development of the disabled student. According to him the intelligence is not static, but dynamic and with a tendency to evolve. Nor is it innate, but it is built in the exchange with the environment. Vygotsky argues that disability was neither an impediment to learning nor to mediation. It even argues that mediation is fundamental for the educational development of the student with a disability.

Therefore, work with the signs according to Freire and Costa (2015) is of fundamental importance for students with disabilities. In order to symbolically represent places, streets, sounds and to create concepts about objects, signs are instruments of psychological actuality, they will act together with languages in interpersonal relations, generating the inter-psychological relationship and putting an end to the intra- -psychological. Therefore, the teacher or other mediator is fundamental in the construction of the assumptions of cultural historical theory in inclusive education.

The main work of Vygotsky cited for his studies with people with disabilities is Fundamentals of Defectology. According to Porto and Oliveira (2010), this work covers studies that Vygotsky carried out in the 1920s, as previously described, in the city of Gomel when he worked with abandoned youths, orphans, people who were disconnected from their families and others with diseases caused by dementia. The Soviet Union was undergoing a serious supply crisis in 1921, which led to the deaths of 6 million children and aggravated the situation, including children with disabilities, disabilities, delinquency and prostitution. The defectology would be the area of knowledge that studies the person with what Vygotsky calls a defect, according to Porto and Oliveira (2010), for Vygotsky what mattered was the patient and not the disease, so it is necessary to give the conditions so that the patient to overcome their difficulties in the face of illness. In the case of the defect or deficiency, the important thing for him was the children he worked, not his physical state.

For Vygotsky the disabled child needs alternative paths and special and different resources to develop (Porto and Oliveira, 2010). This was well within the historical context of the newly created Soviet Union which sought all forms of inspiration and overcoming to rebuild the country ravaged by civil war and economic and political isolation. In defectology Vygotsky defended social relations as a means of overcoming the defects of the child. According to Porto and Oliveira (2010) defectology has its development based on social relations and experiences that favor the development of compensation of human potential. The authors argue that the environment plays a fundamental role in the development of children with disabilities, the contact with the culture and the social relations offered to them by the groups that surround them, are fundamental for this.

Another important point already mentioned is compensation in the faulty child. The term compensation according to Andrade and Smolka (2012), was coined by Vygotsky of Alfred Adler (1870-1937), a Viennese physician who created the idea of targeting a goal or purpose of behavior in his work with people with disabilities, Adler[1] used the concept of compensation for their research, which was also used by Vygotsky. Vygotsky's first texts on disability go back to 1924, when he came into contact with the deaf, blind and mentally handicapped. In them he came to the conclusion that children with defects were 95% healthy and with potential for normal development.

Compensation is a key means for success in building knowledge and development in children with disabilities. Porto and Oliveira (2010, p. 125) say that: "Psychic aspirations are so intense towards compensating for disability that it is possible to open new avenues for the development of other skills in children with disabilities."

According to the authors, the child will not be limited by disability. For example, the blind will remain blind, but will not be limited by blindness, as their limitation will be offset by the use of other senses, such as touch, hearing, and so on. This is the basis of the central thesis of defectology, that every defect creates stimuli to work out compensation. Vygotsky did not agree with the isolation treatment given to the disabled. Possibly he noted this in the Soviet Union's underdogs and in the treatments given by Soviet psychology and medicine of his period. He argued that the defective child should be linked to society as much as possible because they could overcome their limitations. This is why Vygotsky's uncompromising defense, regarding the role of mediation in the development of compensation for children with disabilities.

According to Porto and Oliveira (2010), Vygotsky defines the biological origin of the disability as the primary nucleus, but gives more importance to the social interactions that he defines as a secondary nucleus and where the development of the disabled occurs, so the authors cite the importance of understand the disability by social aspects. From there, the school plays a central role in advancing these premises in the child with disabilities and the teacher is an odd figure in the process of development and interaction of the disabled, since it is essential to mediate.

Another fundamental aspect raised by the authors is about the students' previous knowledge and their life experiences. Respect for their prior knowledge and appreciation of their life experiences are fundamental to contextualize teaching and create plausible strategies to achieve the goals mediated in the construction of knowledge in students with disabilities. These should have a distinct and individual form, which will require the hard work and responsibility of the teachers who will have to work to find alternatives to reach those objectives. It is challenging but at the same time exciting, it was surely the same feeling that defined the course of Vygotsky's theoretical construction when he encountered children and youth with disabilities in Gomel and combined it with a creative and revolutionary spirit that achieved giving it strength and at the same time seriousness in the elaboration of answers to these demands. It is in this way that the limitations of the students of inclusive education continue to be overcome, which are facing challenging struggles to have their rights respected.

3.3 - The Neurosciences

For Vygotsky the brain was not only a physical part of man, but was vital for its development, for

man is not only a biological being, but with the interaction and development of knowledge, he goes from being biological to being a historical partner. The human brain in this sense concentrates through knowledge all this social cultural charge that will influence how this brain works, because it is not in that sense a static organ but can be transformed. In this sense Oliveira (2010, p.24) comments on this Vygotsky's thesis: "The human brain is not a system of physical and immutable functions but an open system of great plasticity whose structure and modes of functioning are shaped throughout the history of the species and individual development".

Luria, one of Vygotsky's main collaborators, is one of the great exponents of neuropsychology. In this area, he carried out numerous researches on the functioning of the brain, but always remembering that his studies were based on the researches of Vygotsky. Luria, quoted by Andrade and Smolka (2012), said that the brain is like a concert, differentiating the functioning brain (what changes) and functional brain (what remains) and starting in different neurophysiological dynamics such as biochemical processes, electrochemical, sequencing of neural networks, teams, plasticity, energy metabolism and others. For this reason, Luria (1981) compared it to the concert, for the permanence of the dynamics as rules or laws of operation, as hierarchies in the periods of development and in the orders of maturation of specific areas. Vygotsky made many references to the plasticity of the brain when he theorized the concept of compensation in his research on defectology; in fact, his early writings on the brain in 1924 were related to working with people with problems of blindness, deafness, and mental retardation.

His works on the brain issue had much influence from Ivan Pavlov's theories on conditioned reflex, but he was also heavily influenced by Darwin's studies. His conception of the historical-cultural approach and its influence on the brain issue is inspired by studies by Durkhein, Lamarck, Skinner, but also writings by Marx and especially by Engels, who observed some differences that produced an abyss between men and animals , such as the upright position of the body, the use of hands, language and the brain, Engels (1979), in fact, bases the importance of the hands as a presupposition for the emergence of human tools and activities. Vygotsky based on these assumptions links the hand to the brain, studying perception and motor skills with more interconnected brain functioning (Andrade and Smolka, 2012).

Luria, in the continuation of Vygotsky's works, speaks of the genesis and structuring of the brain, as a two-way street understood according to a dialectic of development, for him the brain consists of three areas. The primary linked to its biological perception, the secondary areas linked to the contextual information it receives and the main area, the tertiary which are the most complex of the brain, so it was based on Vygotsky's proposal of the brain as a complex functional system. The tertiary areas play a decisive role in the organization, planning and verification of actions, their connections interconnect all areas of the brain, so it exercises dominance over the other areas. It also examines the importance of the prefrontal cortex as a key in regulating human activities.

Vygotsky was very interested in the cases of dementia, he read several articles from 1920, which were fundamental for the elaboration of his work: Fundamentals of Defectology. Where he demonstrates his confidence in his method of work and his conceptions of the social nature of man and the potential of human development (Andrade and Smolka 2012), this would substantiate the later work of Alexander Luria. According to Freitas (2006), he was very concerned with mental processes, such as sensation, perception,

language, thought and memory. For him, specifically on perception, he first has the necessary cortical tone, as he performs the analysis and synthesis of the information received and, thirdly, he deals with the movements that give the perceptive conduct its active character (Luria, 1981). On the sensations, they must stimulate and activate the functioning of the nerve cells joining them to the neurological process. It is up to the brain to organize a communication system with thousands of data.

The plasticity of the brain interested Luria and Vygotsky so much that both applied their research on the subject to the concept of defectology, trying to understand the process of brain plasticity. Abreu (2006) says that brain plasticity allows transformation through social interaction, as appropriate social functions become individual. Emiliano and Tomás (2015) say that the plasticity of the brain leads to its ability to adapt to environmental influences, both in childhood and in adulthood. Tthe plasticity of the brain reestablishes and restores functions disorganized by pathological conditions, this takes away the static condition of the brain. This phenomenon of brain plasticity and the development of the nervous system is intrinsically linked to the socio-historical-educational context, so the importance of cultural and historical constructions influence the cerebral functioning, providing important subsidies for the mediation of the individual with its social and historical context.

4. Final considerations

In this article, we aimed to demonstrate how much the post-revolutionary context of Russia of 1917 exerted a marked influence on the socio-cultural theory. It is interesting to note that this corroborates one of the main assumptions of this theory, according to which the mind is inseparable from its context.

It was also intended to shed light on the problem of Russian translation into English which, in some expressions, deformed the original meaning. Significance problems are specifically relevant within the Vygotskian theory which defends the thesis that the word is a microcosm of human consciousness, and it forms an amalgam between thought and language. Meanings that are not faithful to the original language will convey very different concepts than was intended.

In this work, a specific criticism was also made of traditional education, which does not consider the profound changes that occurred in our time. It is not interested in the reality of its students, it works in favor of the reproduction of a system that favors only a small elite and wants to guarantee its maintenance portentosa, delaying to bring significant improvements for the learning in the classroom. Cultural historical theory has been an important alternative to the teaching-learning process, since it includes a new dynamic for students and teachers who may become aware of their protagonist roles in this process, looking for a rupture with the old educational paradigms and a possible transformation of the school current. Making her attractive, persevering in her role and truly transforming reality.

Therefore, this is the contribution of this article to bring to light the reflection that we need changes in school everyday. That the knowledge of the student is important in the process and that the teacher is not a mere reproducer, but a reflective and conscious researcher.

Inclusive schools are a good example of how useful a cultural historical approach in practice will be in the classroom. Some strategies used in schools that work with inclusive students can be adapted in conventional classrooms; these would be shown through pedagogical workshops or betting on mini-courses

and lectures that will address to teachers the main assumptions of cultural historical theory and the results that are can get in class.

5. References

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