

A FORMAÇÃO DO PENSAMENTO HUMANO POR MEIO DA ESCOLARIZAÇÃO: DIÁLOGOS ENTRE A FILOSOFIA, A PSICOLOGIA E A DIDÁTICA

***LA FORMACIÓN DEL PENSAMIENTO HUMANO A TRAVÉS DE LA
ESCOLARIZACIÓN: DIÁLOGOS ENTRE FILOSOFÍA, PSICOLOGÍA Y DIDÁCTICA***

***THE FORMATION OF HUMAN THOUGHT THROUGH SCHOOLING: DIALOGUES
BETWEEN PHILOSOPHY, PSYCHOLOGY AND DIDACTIC***

Orlando Fernández AQUINO¹
Adriana RODRIGUES²

RESUMO: O objeto da investigação foi a formação do pensamento na escola. O objetivo foi construir uma síntese teórica interdisciplinar, na base de um sistema de categorias correlacionadas entre a filosofia, a psicologia e a didática. A metodologia foi a leitura exploratória, com auxílio do *software* NVivo 12, para a construção de sínteses interdisciplinares. As categorias analisadas (nós temáticos) foram: concepção materialista da história; unidade da experiência social-consciência humana; o pensamento humano; o pensamento como atividade teórica; formação do pensamento teórico na escola; unidade do cognitivo-afetivo. O resultado foi uma nova síntese teórica interdisciplinar sobre a formação do pensamento na escola, construída nos interstícios da filosofia, a psicologia e a didática, destacando o papel da instituição educativa e do professor nesta nobre tarefa.

PALAVRAS-CHAVE: Formação do pensamento. Interdisciplinaridade. Escola. Professor.

RESUMEN: El objeto de la investigación fue la formación del pensamiento en la escuela. El objetivo fue construir una síntesis teórica interdisciplinar, basada en un sistema de categorías correlacionadas entre filosofía, psicología y didáctica. La metodología fue la lectura exploratoria, con la ayuda del *software* NVivo 12, para la construcción de síntesis interdisciplinares. Las categorías analizadas (nudos temáticos) fueron: concepción materialista de la historia; unidad de la experiencia social-conciencia humana; pensamiento humano; pensamiento como una actividad teórica; formación del pensamiento teórico en la escuela; unidad cognitivo-afectiva. El resultado fue una nueva síntesis teórica interdisciplinar sobre la formación del pensamiento en la escuela, construida en los intersticios de la filosofía, la psicología y la didáctica, destacándose el papel de la institución educativa y del profesor en esta noble tarea.

¹ University of Uberaba (UNIUBE), Uberaba – MG – Brazil. Professor and Researcher of the Postgraduate Program in Education. Leader of the GEPIDE/Instruction, Development and Education Study and Research Group. Coordinator of the Brazilian Nucleus of the Red de Estudios sobre Educación (REED). ORCID: <https://orcid.org/0000-0002-3784-8908>. E-mail: ofaquino@gmail.com

² University of Uberaba (UNIUBE), Uberaba – MG – Brazil. Professor and Researcher of the Postgraduate Program in Education. Member of the GEPIDE/Instruction, Development and Education Study and Research Group. Participant of the Brazilian Nucleus of the Red de Red de Estudios sobre Educación (REED). ORCID: <https://orcid.org/0000-0002-5435-394X>. E-mail: adriana.rodrigues.pedagogia@gmail.com

PALABRAS CLAVE: *Formación de pensamiento. Interdisciplinariedad. Escuela. Profesor.*

ABSTRACT: *The object of the investigation was the formation of thought at school. The objective was to build an interdisciplinary theoretical synthesis, based on a system of categories correlated between philosophy, psychology and didactics. The methodology was exploratory reading, with the aid of the NVivo 12 software, for the construction of interdisciplinary syntheses. The analyzed categories (thematic nodes) were: materialist conception of history; unity of human social-consciousness experience; human thought; thinking as a theoretical activity; formation of theoretical thinking at school; unity of the cognitive-affective. The result was a new interdisciplinary theoretical synthesis on the formation of thought at school, built on the interstices of philosophy, psychology and didactics, highlighting the role of the educational institution and the teacher in this noble task.*

KEYWORDS: *Formation of thought. Interdisciplinary. School. Teacher.*

Introduction

In the contemporary world, it is risky have certainties. But we dare to have some, albeit few: human society, in its process of historical-social development, created the school as the institution socially responsible for the formation of new generations in each historical era³. In the history of society, there is no other social institution capable of fulfilling this role with the quality, efficiency and responsibility with which the school does it, or should do it.

At the beginning of the 21st century, many things have changed, but there is at least one that has not changed in its essence: the school remains the socio-educational institution par excellence that has the responsibility of *ensuring the integral formation of the personality of children and young people*. This remains a complex civilizing task in contemporary society. The school is the only social institution that has, or should have, capacitated and well-paid professionals to fulfill this important task. When we talk about the *integral formation of the students' personality*, we are referring to a quality education that meets the affective, cognitive, moral, volitional, physical and cultural dimensions of all. Unfortunately, for several reasons, in most contemporary societies, this is a dream that is still far from being achieved.⁴

In the context of the uncertainties we have experienced, for years we've been encouraged by the challenge of reaching an in-depth understanding of the teaching-learning processes at school and the profile of the teacher that should be formed in order for the educational

³ Davidov explains that the conversion of the education and teaching process into an autonomous sphere of society took place in slave societies. The author exemplifies with the cases of the Greek Spartan State, Athens and ancient Rome. In Sparta, for example, children aged 7 to 18 lived in specific establishments to learn to read, write, calculate, receive physical and military training. (CF, 1988, p. 160).

⁴ In the development of this article, we return to this important subject.

institution to fulfill its true social role: *the integral formation of the students' personality, their formation for life, in each new concrete historical situation.*

This challenge has led us to place the objective of elaborating a theoretical synthesis on the formation of human thought and the role of the school and the teacher in this relevant task. We think that one of the ways in which this synthesis can be elaborated is by working in the *conjunction or zone of intersection* between the theoretical systems of dialectical philosophy, historical-cultural psychology and developmental didactics - a *zone of commonality* of systems, Vigotski would say. Our question seems simple: how does the development of human thought occur in concrete historical situations and what would be the role of the school and the teacher in this noble task? Returning to some of the previous ideas, our hypothesis is that one of the possible ways to understand the development of human thought in concrete historical situations, linked to the role of the school and the teacher, could be the elaboration of a new theoretical synthesis that integrates contributions from philosophy dialectical-materialist, historical-cultural psychology and developmental didactics. We know that seeking this answer, at the level of theoretical synthesis, is: first, an indispensable step before any empirical verification; second, that it is not an easy task due to the level of abstraction and generalization that the work implies, and; third, that we are not sure of fulfilling the task at the time of your demand. But, something can advance in the confidence that new researchers can take it beyond our results.

At the methodological level, the experience led us to seek an interdisciplinary relationship between the way the problem of the formation of human thought is posed in dialectical philosophy, in historical-cultural psychology and in developmental didactics. The purpose was to explore the thematic nodes and existing articulations on the same theme (category), treated in different and interconnected disciplinary fields. In performing this research task, the textual exploration method was used, with the aid of the *N Vivo 12 Plus* Software. In general, the work literature was inserted in a folder in the software and later, through search commands and material organization, thematic convergences between the authors and texts were raised. For that, a network of thematic nodes (categories of analysis)⁵ previously created by the researchers was used as base. Records, structural matrices and conceptual maps were elaborated that revealed the intersections between the sources of philosophy, psychology and didactics. This allowed us to visualize, since the beginning of the research, relations that did not appear at first sight in the traditional parallel process of

⁵ Software *N Vivo 12* uses the nomenclature of *thematic nodes*, to refer to the so-called analysis categories of Marxist research. We consider that the term is very graphic, because what we build are true theoretical bonds. For this reason, we retain the name, without implying a contradiction with the traditional term.

exploration of the authors. As a result, it was possible to synthesize a set of thematic nodes (categories) in an interdisciplinary view that constitutes the main result of this investigation. The categories of analysis (thematic nodes) are as follows: materialist conception of history; unity of the human social-consciousness experience; human thought; thinking as a theoretical activity; formation of theoretical thinking at school; cognitive-affective unit in students. The theoretical synthesis of these categories is set out below, with the support of years of empirical research in the classroom and the exercise of teaching in undergraduate and graduate courses.

The materialist conception of history: its relevance for the understanding of human thought

Before starting any further reflection, it is essential to make clear the philosophical perspective from which we approach the discussion of human thought. This perspective is the dialectical-materialist conception of history and, consequently, of society, man and his psyche. The materialist conception of history was exposed by K. Marx and F. Engels mainly in **The German Ideology** (1845-1846). In this work, the authors contrast their materialist view of history with the idealistic conception of old and new Hegelian philosophers. The authors claim that none of F. Hegel's philosophers have been asking about the relationship of German philosophy with the reality of Germany, let alone the relation of his criticism "with the material world that surrounds him"⁶ (MARX; ENGELS, 1973a, p. 15).

In the most interesting text that closes the "Final words to the second German edition of the first volume of **Capital** of 1872", Marx presents a state of knowledge about the political economy in Europe and defends himself from the critics - wise and ignorant spokesmen of the bourgeoisie - who have little understood the method used by him in **Capital**. The author disputes with his critics, rejecting some and recognizing the successes of others, in an unusual expression of scholarship.

My dialectical method is not only at its base distinct from Hegel's method. For Hegel, the thought process, which he even turns, under the name of idea, into a subject with a life of his own, is the demiurge [creator] of the real, and the real his simple appearance. For me, on the contrary, *the ideal is nothing more than the material transposed and translated into the head of man* (MARX, 1973a, p. 99, our highlights).⁷

⁶ "com o próprio mundo material que lhe rodeia"

⁷ O meu método dialético não só é na sua base distinto do método de Hegel. Para Hegel, o processo do pensamento, ao que ele converte inclusive, sob o nome de ideia, em sujeito com vida própria, é o *demiurgo* [criador] do real, e o real sua simples aparência. Para mim, pelo contrário, *o ideal não é mais que o material transposto e traduzido na cabeça do homem* (MARX, 1973a, p. 99, grifo nosso).

This quote is classic, because in it Marx produces the inversion of Hegel's methodological perspective by declaring; first, that thought (the ideal in general) is not a simple appearance of things; second, that the ideal (thought) is a *translation* of the real in the human mind. The fact that thought is a *translation of reality* in the minds of men implies that this representation is not a literal copy of reality, but a mental elaboration of the subject, who ultimately has a substantial relationship with the represented reality (object).

In that same place, Marx explains that for 30 years he criticizes the mystification suffered by dialectics in the hands of Hegel, but he has the humility to declare himself a disciple of the great German master, explaining that, in certain excerpts from **Capital**, he coquettes with his form of exposure.

The mystification suffered by the dialectic in the hands of Hegel, does not pay anything to the fact that he was the first to expose, in all its amplitude and with all conscience, the general forms of his movement. In Hegel the dialectic goes upside down. It is necessary to place it on your feet to discover the rational grain hidden under the mystical shell (MARX, 1973a, p. 99-100, our highlights).⁸

Certainly, Marx applies his method in the elaboration of Capital, showing that it was possible to employ Hegel's dialectic correctly. At the same time, in the company of Engels, he discovers the *rational grain of dialectics* by considering historical, concrete individuals, their actions and their living conditions, both inherited and those created by them, as the starting point for understanding history of society and its protagonists: real men. Thus, the first premise for understanding history is the existence of human individuals who make it with their own lives. In the historical analysis of society, the first one that is verified is the corporeal existence of human individuals and their relationship with the rest of nature (MARX; ENGELS, 1973a).

[...] men themselves begin to see the difference between them and animals so begin to produce their livelihoods, a step that is conditioned by their corporeal organization. *In producing his means of living, man indirectly produces his own material life* (MARX; ENGELS, 1973a, p. 16, emphasis added).⁹

This means that human subjects, - in their reciprocal relations with nature and with others who participate in the productive activity to ensure instruments, utensils, food, housing,

⁸ A mistificação sofrida pela dialética nas mãos de Hegel, não quita nada ao fato de que tenha sido ele o primeiro em expor, em toda sua amplitude e com toda consciência, as formas gerais de seu movimento. Em Hegel a dialética anda de cabeça para baixo. É preciso colocá-la sobre os seus pés para *descobrir o grão racional encoberto sob a casca mística*. (MARX, 1973a, p. 99-100, grifo nosso).

⁹ [...] os homens mesmos começam a enxergar a diferença entre eles e os animais tão pronto começam a produzir seus meios de vida, passo este que se encontra condicionado pela sua organização corpórea. *Ao produzir seus meios de vida, o homem produz indiretamente sua própria vida material* (MARX; ENGELS, 1973a, p. 16, grifo nosso).

clothing, etc. - also create the conditions of their material life, while they know nature, dominate it and represent it in their intellect. It is understood that individuals are ultimately the result of the conditions in which they live and produce. The production was possible historically with the multiplication of the population, supposing in addition a treatment or interchange between the individuals. The production, at the same time, also conditioned the form of this exchange.

In turn, F. Engels at different times (1973c, 1973d), when explaining K. Marx's scientific contributions to modern science, highlights among them two very important laws for the understanding of social history and political economy: the first, refers to the unveiling of the law that governs the development of human history; the second has to do with the discovery of the relationship between capital and labor and, in particular, the unprecedented phenomenon at the time of surplus value. The discovery of these laws illuminated many of the problems related to social development that, for 19th century science, were still in darkness. Thus, in Engels' memorable words at the tomb of Marx, the speaker states:

Just as Darwin discovered the law of the development of organic nature, Marx discovered the law of the development of human history: the fact, so simple, but hidden under the ideological malaise, that man first needs to eat, drink, have a roof and dress before being able to do politics, science, art, religion, etc., *therefore, the production of immediate, material means of living, and therefore the corresponding economic phase of the development of a people or of an era is the basis from which political institutions, legal concepts, artistic ideas and even religious ideals of men have been developed and with an arrangement which must therefore be explained, and not instead, as until then it had been done* (ENGELS, 1973d, p. 171, our highlights).¹⁰

Marx and Engels are shown to have a keen view of their materialist conception of history. They justify that individuals establish certain social and political relations in the context of the production relations in which they are immersed and that these socioeconomic relations are the starting point to explain the historical-social development in each given time. The empirical analysis of these relationships in each specific case should highlight, without speculation or subterfuge, the existing relationships between production, politics and social structure. The state and the social structure constantly emerge from the relationships that individuals contract, just as they are in the process of their lives; that is, as they produce and act

¹⁰ Assim como Darwin descobriu a lei do desenvolvimento da natureza orgânica, Marx descobriu a lei do desenvolvimento da história humana: o fato, tão simples, mas oculto sob a mazela ideológica, de que o homem precisa, em primeiro lugar, comer, beber, ter um teto e vestir-se antes de poder fazer política, ciência, arte, religião etc., que, portanto, *a produção dos meios de vida imediatos, materiais, e por conseguinte, a correspondente fase econômica do desenvolvimento de um povo ou de uma época é a base a partir da qual se têm desenvolvido as instituições políticas, as concepções jurídicas, as ideias artísticas e inclusive as ideias religiosas dos homens e com arranjo a qual devem, por tanto, explicar-se, e não ao invés, como até então tinha-se feito* (ENGELS, 1973d, p. 171, grifo nosso).

within certain limits, premises and material conditions of existence, and regardless of their wishes. At the same time, in this process:

Men are the producers of their representations, of their ideals, etc., but they are real and active men, just as they are conditioned by a determined development of their productive forces and by the treatment that corresponds to it [...] Consciousness [*das Bewusstsein*] can never be anything other than the conscious being [*das bewusste Sein*], and *the being of men is their real life process* (MARX; ENGELS, 1973a, p. 21, our highlights).¹¹

This quote puts us in front of another important aspect for this study: the ideals, the mental representations, the conscience and the human thought originate in the relationships that men establish in the social and productive process, even though they soon reach a certain independence from material life. If we accept the idea that *men's being is their real life process*, we must also agree with another fundamental idea: when production relations change, when social relations and treatment between men change, they also change the products of human thought and consciousness. These ideals justify our acceptance of a well-known Marxist thesis: “It is not conscience that determines life, but life that determines conscience”¹² (MARX; ENGELS, 1973a, p. 21).

In short, the theory about the materialist conception of history, developed by Marx and Engels, has been an indispensable contribution to understanding the economy, society, politics, conscience and human thought. The materialist conception of history can be summarized in the following arguments:

- 1) The study of history, society, conscience and human thought must start from the existence of real men, flesh and blood, who build their lives in relations with nature and with the rest of the species.
- 2) Men are essentially different from animals because they produce their own livelihoods, their own instruments.
- 3) Men produce their representations, their ideals and thoughts in the social and production relations, education and communication in which they are immersed.
- 4) 4) The being of men is *ultimately* determined [and only ultimately] by the process of their material and spiritual life.
- 5) Life is what determines the conscience of men and not the other way around.

¹¹ Os homens são os produtores de suas representações, de suas ideais etc., mas se trata de homens reais e ativos, tal e como se acham condicionados por um determinado desenvolvimento de suas forças produtivas e pelo trato que a ele corresponde [...] A consciência [*das Bewusstsein*] jamais pode ser outra coisa que o ser consciente [*das bewusste Sein*], e *o ser dos homens é o seu processo de vida real* (MARX; ENGELS, 1973a, p. 21, grifo nosso).

¹² “Não é a consciência a que determina a vida, senão a vida a que determina a consciência”

- 6) Human conscience is the *conscious* being forged in social relations and in production and communication between men.
- 7) When the social conditions of production, communication and education are radically transformed, human consciousness and thought also change.
- 8) These philosophical, explanatory arguments of the materialist conception of history have, in our perspective, essential relevance for understanding the social role of the school and the work of teachers in each concrete social situation.

The human social-consciousness experience unity (thought)

Italian Marxist A. Gramsci (1891-1937) advanced the philosophical reflection on the materialist conception of history and laid the foundations for an in-depth understanding of the unity between social experience and human thought (consciousness). Gramsci brought to the discussion the need to situate the study of thought *historically*, as Marxist philosophy did in its overcoming of classical German philosophy. He also pointed out the need to place *human will* on the basis of philosophy ("in the final analysis - said Gramsci - the practical and political activity" of men). It is very interesting how the Italian philosopher understands *historicism* and *the human will* placed at the service of the study of consciousness:

[...] rational will, not arbitrary, which is realized while it corresponds to objective historical needs, that is, while it is the same universal history in its moment of its progressive performance; if this will is initially represented by a single individual, its rationality is documented by the fact that it is welcomed by the large number, it's permanently welcomed, that is, conveys itself in a culture, a "common sense", a conception of world, with an ethics according to its structure (GRAMSCI, 1986, p. 331, author' highlight).¹³

Let's look at some ideas from this quote. First, man's rationality, his non-arbitrary thinking, is necessarily linked to objective historical conditions, which in turn are part of the dynamics of universal history. Second, the rationality of a single man is only valid when it is documented, when it coincides with the rationality of the social majority, thus becoming a cultural heritage of the given time, in a conception of the world, which in turn also carries the ethics of the time.

¹³ [...] vontade racional, não arbitrária, que se realiza enquanto que corresponde a necessidades objetivas históricas, ou seja, enquanto que é a mesma história universal no seu momento de sua atuação progressiva; se esta vontade está representada inicialmente por um só indivíduo, sua racionalidade é documentada pelo fato de que é acolhida pelo grande número, é acolhida permanentemente, ou seja, que se converte numa cultura, um 'bom senso', uma concepção do mundo, com uma ética conforme a sua estrutura (GRAMSCI, 1986, p. 331, grifo do autor).

Gramsci also points out that the philosophy of praxis has taken a step forward, surpassing classical German philosophy, historicizing thought and assuming it as a conception of the world, as 'common sense' shared by the majority, disseminated in such a way that it becomes the *creative norm of conduct*. Thought, as a creative norm of conduct, in the wake of Gramsci, is unimaginable apart from its rationality and historicity. The creative character of thought must be understood, according to the author:

In the 'relative' sense, of thinking that modifies the way of feeling of the greatest number and the reality that it cannot be thought without this greatest number. Creative also in the sense that it teaches that there is no 'reality' valid by itself, in itself and by itself, but in a historical relationship with the men who modify it, etc. (GRAMSCI, 1986, p. 332, author' highlights).¹⁴

In other words, that the creative character of thought is *relative* in a double sense: on the one hand, thought impacts the way of feeling of the social majority, there is a relationship between thought and human feelings with respect to the reality of the given time and, on the other, that there are no realities in and for themselves, that are not directly related to the men who modify and represent them intellectually.

Also, in the field of historical-cultural psychology, Marx's postulates about the unity between social experience and man's conscience continue. Vigotski (1999) concludes that historical and social experience, on the psychological plane, do not constitute anything distinct from consciousness, since in fact they cannot be separated, because "they always present themselves together [...]. Its mechanism is absolutely the same as that of consciousness [...] because the latter must also be considered as a particular case of social experience"¹⁵ (VIGOTSKI, 1999a, p. 84).

In turn, in the continuation of scientific reflections in the field of psychology on the unity between consciousness and social experience, Leontiev (1972) concludes:

[...] consciousness exists only in the form of a mental image revealing to the subject the world around. Activity, on the other hand, still remains practical, external. At a later stage, activity also becomes an object of consciousness; man becomes aware of the actions of other men and, through them, of his own actions. They are now communicable through gestures or oral speech. This is the precondition for the generation of actions and internal operations that occur in the mind, in the 'plane of consciousness'. *Image-awareness* also becomes activity-awareness. It is in this plenitude that consciousness begins

¹⁴ *No sentido 'relativo', de pensamento que modifica o modo de sentir do maior número e pelo tanto da realidade mesma que não pode ser pensada sem este maior número. Criativo também no sentido de que ensina que não existe uma 'realidade' válida por si mesma, em si e por si, senão em relação histórica com os homens que a modificam etc (GRAMSCI, 1986, p. 332, grifo do autor).*

¹⁵ "sempre se apresentam juntas [...]. Seu mecanismo é absolutamente o mesmo que o da consciência [...] porque também esta última deve ser considerada como um caso particular da experiência social"

to seem emancipated from practical, external sensory activity, and, even more, it seems to control it (LEONTIEV, 1972, p. 13-14, author' highlights).¹⁶

In this quote by Leontiev, some issues deserve to be highlighted. For example, the statement that consciousness exists primarily as a mental image of the world around the subject. As will be seen below, other philosophers and psychologists explain the importance of mental image in the study of thought and of thought as an ideal reflection of reality. Likewise, in more advanced stages, consciousness also becomes the subject of the subject's activity, the "image-consciousness also becomes activity-consciousness" and with this the transition to the subject's internal intellectual activity.

In the encounter with these ideals, a teacher with a philosophical vocation, such as Vasili Davidov, explains that the essence of man is "the set of social relations". That man behaves in social relations as in his own essence. That is, that man behaves before himself as a generic being. "Here the individual's connection with social relationships takes place, that is, the duplication of relationships, which is precisely a characteristic of consciousness"¹⁷ (DAVIDOV, 1988, p. 42). What is at the bottom here is the idea of dialectical philosophy that man not only duplicates himself intellectually (in conscience), but also in the material reality of his practical action, aiming at his generic existence at work.

If man is a certain particular individual and, precisely, his particularity makes him an individual and a real individual being, he is, to the same extent, also the totality, the ideal totality, the subjective existence for himself of the society thought and perceived (MARX, *apud* DAVIDOV, 1988, p. 42).¹⁸

In other words, thanks to the ideal nature of consciousness, the universality of real social relations can be represented in man's thinking. In other words, man repeats in thought (in his conscience), his real existence.

In summary, we can say that the thesis of the unity between social experience and human consciousness (thought) is justified based on the following scientific evidence:

¹⁶ [...] a consciência existe somente na forma de uma imagem mental revelando ao sujeito o mundo ao redor. Atividade, por outro lado, ainda permanece prática, externa. Em um estágio mais adiante, a atividade também se torna um objeto da consciência; o homem se torna ciente das ações de outros homens e, através deles, de suas próprias ações. Eles são agora comunicáveis por gestos ou discurso oral. Essa é a pré-condição para a geração de ações e operações internas que ocorrem na mente, no 'plano da consciência'. *Imagem*-consciência torna-se também atividade-consciência. É nesta plenitude que a consciência começa a parecer emancipada da atividade sensorial prática, externa, e, ainda mais, parece controlá-la" (LEONTIEV, 1972, p. 13-14, grifo do autor).

¹⁷ "Aqui tem lugar a vinculação do indivíduo com as relações sociais, ou seja, a duplicação das relações, o qual é, justamente, característica da consciência"

¹⁸ Se o homem é certo indivíduo particular e, justamente, sua particularidade faz dele um indivíduo e um ser individual real, ele é, na mesma medida, também a totalidade, a totalidade ideal, a existência subjetiva para si da sociedade pensada e percebida (MARX, *apud* DAVIDOV, 1988, p. 42).

- 1) *Historicity* and *human will* need to be placed at the basis of studies of the relationships between social experience and human thought.
- 2) The 'non-arbitrary' rationality in each age is linked to concrete and universal historical conditions.
- 3) Human thinking is creative because it impacts the way of feeling of the majority and the way in which the majority changes and represents reality.
- 4) Consciousness is a particular case of men's social experience.
- 5) Human subjects, through consciousness, reflect in their heads the real world in which they live, work and educate themselves in a dynamic and contradictory way.
- 6) As human activity progresses, consciousness becomes the object of that same activity and men become aware of their actions, languages, gestures.
- 7) Actions, together with language and communication, lay the foundation for internal operations at the level of thought (consciousness).
- 8) It is in these conditions that the consciousness achieves relative independence from human activity and *seems* to control it.
- 9) These philosophical postulates and psychological evidence are particularly important for understanding the social and formative role of schools and teachers.

Human thought: brief characterization

Thought is a faculty inherent in man as a social being. Gramsci is very emphatic in this regard when stating that: “no man can be imagined who is not also a philosopher, who does not think, precisely because thinking is proper to man as such (unless he is pathologically idiotic)”¹⁹ (GRAMSCI, 1986, p. 219).

For his part, P. V. Kopnin (1983, p. 132) defines thought as “the subjective image of the objective world”²⁰. Thought is part of human subjectivity because it always belongs to man as a social being. In principle, the concrete man creates the images of the objects and processes of reality, in the context of their social and productive relations. At the same time, thinking is objective because it exists in the form of ideal images that reflect the essential and universal characteristics of the objects, processes and phenomena represented in the human mind. “Thought aspires to be subjective in order to have a content adequate to the objective, to make

¹⁹ “não se pode imaginar nenhum homem que não seja também filósofo, que não pense, justamente porque o pensar é próprio do homem como tal (a menos que seja patologicamente idiota)”

²⁰ “a imagem subjetiva do mundo objetivo”

manifest the properties of the object, as they exist outside the thought”²¹ (KOPNIN, 1983, p. 132).

It is concluded that the relations that the subjects establish with the objects and with the other subjects, whether at work, in study, in artistic or scientific creation, are always mediated by daily social practice. In this process of practical social action, mental images of reality, thinking, consciousness and human knowledge are formed. But the images that make up the content of thought are not static; they are reconfigured, expanded and modified to the rhythm of life itself and human activity, also transforming thought and consciousness. This requires an eternal, living, recursive movement of thought.

Another complex issue results from the relationship between thought itself and its biological organ, the brain. The dialectical-materialist conception starts from the principle that the universe is constituted only by matter. This material is organized in different forms and classes, has different properties and is in different stages of development. In this regard, Engels reflects as follows: “Body, being, substance, is one and the same real idea. You cannot separate thought from matter you think. It is the subject of all changes. The word ‘infinite’ is meaningless, otherwise it is an expression of the capacity of our spirit to aggregate without end”²² (ENGELS, 1974c, p. 102). In this same line of reasoning, P. V. Kopnin reflects as follows:

Thought does not exist as something outside matter, as a spiritual principle, but it is a property of matter, but a property organized in a special way; when there is no such form of matter, there is also no such property (KOPNIN, 1983, p. 134).²³

That is, that thought is a property of the brain, while it is a special form of matter's existence. In other words, it is necessary to differentiate the brain as a biological organ from the thought itself. As already explained, thought is essentially an ideal phenomenon, because in it the objects and phenomena of the real world are represented, but at the same time, it is also an objective phenomenon. Kopnin explains the specific qualities of thought as follows:

Man interacts with objects in the outside world and in this interaction the property of his brain is manifested: the property of thinking, that is, the ability

²¹ “O pensamento aspira a ser subjetivo para ter um conteúdo adequado ao objetivo, para pôr de manifesto as propriedades do objeto, tal como existem à margem do pensamento”

²² “Corpo, ser, substância, é uma e a mesma ideia real. Não se pode separar o pensamento da matéria que pensa. É ela o sujeito de todos os câmbios. A palavra ‘infinito’ carece de sentido, senão é como expressão da capacidade de nosso espírito para agregar sem fim”

²³ O pensamento não existe como algo fora da matéria, como um princípio espiritual, senão que é uma propriedade da matéria, mas uma propriedade organizada de forma especial; quando não há esta forma da matéria, também não há esta propriedade (KOPNIN, 1983, p. 134).

to create an ideal image, to reflect in a special way the peculiarities of objects in the outside world. The qualitative peculiarity, unique to thought as a property of the brain, lies in its ability to reproduce the external reality in images in a conceivable way. This is what differentiates thought, as a property of matter, from all other properties (KOPNIN, 1983, p. 134-135).²⁴

This quote makes it clear that thinking is a special property of the brain. The brain alone has the capacity to create ideal images of reality in its interaction with external objects. However, thought is not the property of all matter, but of highly developed and organized matter, the human brain. The other forms of matter do not have the capacity to represent the world in images in their interaction with it. It follows that the function of thought is ideal, cognitive and apprehensive of reality and not biological or metabolic.

At the same time, in this approach, thinking depends on the brain, but not only on it. The very organ of thought, the brain, is always mediated by the daily social practice of men. As Kopynin states: “[...] the brain and its sensory organs are not only the result of biological evolution, but also of social changes”²⁵ (KOPNIN, 1983, p. 136).

Another peculiarity of thought is its relative independence from the practice and social development of each era. Due to this relative independence, thought is separated from practice and immediate needs, giving rise to abstract, conceptual, theoretical, artistic formulations, etc., even creating false illusions and speculative theories that have nothing to do with reality. The relative independence of thought makes it active and creative. Thought thus becomes a process of spiritual activity, always oriented towards obtaining new theoretical results. The development of thought is nothing more than the creative process of cognitive images, concepts and their integration with existing ones. The movement of thought occurs almost always from not-knowing to knowing, aimed at a better understanding of reality.

This means that the main force that drives thought is the practice of men in the social environment, but only in the end. In other words, thought has its own internal logic of development, with relative independence from practice. The internal logic of thought helps to understand that thinking can stay within the limits of established knowledge, or that it can develop from existing concepts and theories, creating new concepts and theories. This is the

²⁴ O homem trava relações com os objetos do mundo exterior e nesta interação se manifesta a propriedade de seu cérebro: a propriedade de pensar, ou seja, a capacidade de criar uma imagem ideal, de refletir de um modo especial as peculiaridades dos objetos do mundo exterior. A peculiaridade qualitativa, singular do pensamento como propriedade do cérebro, radica na sua capacidade de reproduzir a realidade exterior nas imagens de uma forma conceitual. Isto é o que diferencia o pensamento, como propriedade da matéria, de todas as demais propriedades (KOPNIN, 1983, p. 134-135).

²⁵ “[...] o cérebro e seus órgãos sensoriais não são somente resultado da evolução biológica, senão também das mudanças sociais”

development of thought. The essence of its development is to obtain new cognitive results (KOPNIN, 1983).

The relative independence of thought, its internal logic of development, must not lead one to think that this independence is absolute. True thinking, as Lenin (2011) would say, is not far from reality, from truth. These are his words:

The thought, rising from the concrete to the abstract, does not depart from [...] the truth, but, on the contrary, approaches it. Abstractions of matter, natural law, abstraction of value, etc. In short, all scientific abstractions (correct, serious, non-arbitrary) reflect nature more deeply, more exactly, more completely (LENIN, 2011, p. 151).²⁶

This quote from Lenin is fundamental to understanding the essence of thought: thought has the ability to abstract the essential elements of reality and to represent itself in the form of cognoscitive images, but the reality represented in thought is part of the content of the image. In other words, the thought that really captures the truth of the real, even though it is ideal, is closer than ever to reality. Marx explains it as follows:

The *concrete* [in thought] is *concrete* because it is the synthesis of multiple determinations, therefore, unity of the diverse. It appears in thought as a *synthesis process*, as a *result*, not as a starting point, even if it is the true starting point, and, consequently, also the starting point of intuition and representation. [...] *the abstract determinations lead the representation of the concrete* along the path of thought (MARX, 2007, p. 21, our highlights).²⁷

This quote from Marx is classic, but it has not always been covered in its exact value. We think that, from this quote, at least three arguments of the dialectic between thought and the socio-productive reality of men can be understood. First, we need to understand that the author uses the term *concrete* in two meanings. In the first line, it refers to the *concrete thought*, that is, the synthesis of the various determinations that integrate the image of the representation of the object or concept. In the penultimate line, the concrete is the real concrete (the object, the concept) represented in the human brain in the form of an abstract image. Second, the real concrete (object, concept) is the starting point for the formation of the mental image, the starting

²⁶ O pensamento, elevando-se do concreto ao abstrato, não se afasta [...] da verdade, mas, ao contrário, se aproxima dela. As abstrações da matéria, da lei natural, a abstração do valor etc., em suma, todas as abstrações científicas (corretas, sérias, não arbitrárias) refletem a natureza mais profundamente, mais exatamente, mais completamente. (LENIN, 2011, p. 151).

²⁷ O concreto [no pensamento] é concreto porque é a síntese de múltiplas determinações, pelo tanto, unidade do diverso. Aparece no pensamento como *processo de síntese*, como *resultado*, não como ponto de partida, mesmo que seja o verdadeiro ponto de partida, e, em consequência, o ponto de partida também da intuição e da representação. [...] *as determinações abstratas conduzem a representação do concreto* pelo caminho do pensamento. (MARX, 2007, p. 21, grifo nosso).

point of all human representation and intuition, but this real concrete is part of the image (the thought concrete). Third, Marx makes explicit here the dialectic between the ideal and the material, between the objective and the subjective in man's thought. The material and ideal dimensions of reality are fully integrated into a dialectical unit.

Furthermore, in the direction of this analysis, another relevant aspect must be addressed. It refers to the *character of the image and representation* that the subject forms as a result of the activity of thought. In materialist dialectics, the representation of reality is not conceived as an exact, simple, immediate, total reflection, as if it were the image of reality projected on a mirror. On the contrary, the mental representation of reality is a complex, gradual, often abrupt process of capturing the essential relations of objects and phenomena with which we relate. Lenin (2011) explains that the process of reflecting reality in thought consists of:

[...] in a whole series of abstractions, formulations, concept formation, laws etc. - and these concepts, laws etc. (thought, science = logical idea) relatively encompass the universal laws of nature eternally in motion and in development. Here there are really, objectively, three terms: 1st. the nature; 2nd. man's knowledge - man's brain (as a superior product of this nature); and 3rd. the shape of nature's reflection in human knowledge; and this form are concepts, laws, categories, etc. Man cannot embrace = reflect = reproduce all of nature, in its "immediate totality"; he can only approach it eternally by creating abstractions, concepts, laws, a scientific picture of the universe, etc. (LENIN, 2011, p. 159, author' highlights).²⁸

Let us comment on some aspects of the richness of this quote. First, when it comes to the formation of scientific thinking, the mental representation of reality takes the form of abstractions, concepts, laws, categories in thought. These forms of thought - concepts, laws, categories - are not static, but interact and evolve in an inter-functional way, giving way to increasingly complex mental elaborations. When these forms of thought are correct, they capture and express the movement of the real, its eternal becoming, in contact with life. Another important issue is to understand that the starting point of dialectical-materialist analysis is, in the end, natural or social reality and that the human brain is the product of nature's own development, but not only through the action of biological laws, but also under the decisive influence of human activity in the socio-productive environment. Man's knowledge of reality

²⁸ [...] em toda uma série de abstrações, de formulações, de formação de conceitos, leis etc. - e estes conceitos, leis etc. (o pensamento, a ciência = ideia lógica) abarcam relativamente, aproximadamente, as leis universais da natureza eternamente em movimento e em desenvolvimento. Aqui há, realmente, objetivamente, três termos: 1º. a natureza; 2º. o conhecimento do homem - o cérebro do homem (como produto superior desta natureza); e 3º. a forma do reflexo da natureza no conhecimento humano; e esta forma são os conceitos, as leis, as categorias etc. O homem não pode abarcar = refletir = reproduzir toda a natureza, na sua "totalidade imediata"; pode somente aproximar-se dela eternamente criando abstrações, conceitos, leis, um quadro científico do universo etc. (LENIN, 2011, p. 159, grifo do autor).

is infinite; it takes place through constant approximations, since thought in its various forms of existence is not capable of capturing the totality of reality at once. That is why it needs to create abstractions, concepts and laws capable of progressively reflecting it. When thought is correct, the idea of representation coincides with the object (the objective and subjective world). This objective (object) world guarantees the unity between the concept and reality. Based on this, Lenin states: “[...] the reality that does not correspond to the concept is a mere phenomenon, it is the subjective, the accidental, the arbitrary that is not the truth”²⁹ (LENIN, 2011, p. 166).

One more element is needed to end this brief characterization of human thought. It is about his social-historical character, in some way already treated before, but it is essential to consider, as Davidov says: “The thought of an isolated man represents the functioning of the historically formed activity of society, an activity of which he has appropriated”³⁰ (DAVIDOV, 1988, p. 115).

Synthesizing, as explained in this subtitle, we consider that understanding the historical-social character of thought; its condition of faculty inherent to man; the existence of thought in the form of cognitive images, built on the relations of production, communication, study and work; the understanding of thought as a special property of its biological organ, the brain, and of it as a special form of highly organized and developed matter; the relative independence of thought with respect to historical social practice, etc., are invaluable grounds for explaining the responsibility of the educational institution and the formation of teachers for such a task of social redemption for children and young people.

Thought as man's theoretical activity

Marx and Engels explain that thought is one of the forms of man's specific activity, a spiritual, theoretical activity (MARX; ENGELS, 1973a). Theoretical thinking is a historical product that takes on different forms and content at different times. “Like all sciences, the science of thought is, therefore, a historical science, the science of the historical development of human thought”³¹ (ENGELS, 1974a, p. 59). In their studies on the origin of human thought, the creators of materialist dialectics highlight:

²⁹ “[...] a realidade que não corresponde ao conceito é mero fenômeno, é o subjetivo, o acidental, o arbitrário que não é a verdade”

³⁰ “O pensamento de um homem isolado representa o funcionamento da atividade historicamente formada da sociedade, atividade da qual ele se tem apropriado”

³¹ “Como todas as ciências, a ciência do pensamento é, por conseguinte, uma ciência histórica, a ciência do desenvolvimento histórico do pensamento humano”

The production of ideas, *representations and conscience appears, at first, directly intertwined with the material activity* and material treatment of men, as the language of real life. The formation of ideas, thinking, and the spiritual treatment of men *are still presented here as a direct emanation of their material behavior* (MARX; ENGELS, 1974a, p. 20-21, our highlights).³²

In our view, it is a matter of explaining only the genesis of thought and ideas linked to material activity and the relationships that subjects contract in society. But in the same place, it is explained that further on, spiritual production separates from the material and that the production of ideas acquires relative independence from the material. Thus, consciousness is defined as the conscious knowledge of practice, which can represent certain things without representing something effective. From that moment on, the conscience can emancipate and start to constitute the 'pure' theory, philosophy, theology, morality. But the autonomy of thought as a theoretical, spiritual activity of man is relative with respect to practical material activity. "Thought is nothing but the conscious knowledge of being; its content remains the objective world"³³ (KOPNIN, 1983, p. 137).

We can understand that man knows the objects of the real world because, in the process of his practical activity, he influences them. But this relationship is reciprocal, recursive. At the same time that the subject acts on the nature and objects of material culture, they also act on the subject, taking steps to represent them in his mind. Thought thus becomes the theoretical relation between the subject and the object, reflecting in consciousness the part of reality that is the object of knowledge.

It has been explained previously that the activity of thought is closely related to the formation of cognitive images. Kopnin (1983), points out that the study of the nature of thought must begin by clarifying the essence of the cognitive image, that is, the relationship of the image with what is represented in it. It is clarified that the object and its image are not one and the same. An indispensable premise of materialistic dialectic is to know how to distinguish the object from its mental representation, since the object represented exists independently of its cognitive image. The object and its image constitute a unity in thought, but the image is not a photographic copy of the object, but a mental abstraction of it.

The subject does not modify the object in the thought process. Thought apprehends its essential properties, the laws that determine it, but does not modify it materially. "The

³² A produção das ideias, *das representações e da consciência aparece, a princípio, diretamente entrelaçada com a atividade material* e o trato material dos homens, como a linguagem da vida real. A formação das ideias, o pensamento, o trato espiritual dos homens *se apresentam aqui ainda como emanção direta de seu comportamento material*. (MARX; ENGELS, 1974a, p. 20-21, grifo nosso).

³³ "O pensamento não é outra coisa que o conhecimento consciente do ser; seu conteúdo continua sendo o mundo objetivo"

theoretical relationship between the subject and the object - the result of which is only the knowledge of the latter, but not its transformation - originates and subsists on the basis of practice”³⁴ (KOPNIN, 1983, p. 131). Thus, thought does not separate the subject from the object, but rather converts them into a dialectical unit. This unity creates in thought the subjective image of the objective world.

In historical-cultural psychology, the investigations of P. Ya. Galperin highlighted the enormous role of images in thought. The author states that not everything in the mind is an image, but that they are a relevant characteristic of the psyche. According to him, if the relationship between images and thought is not taken into account, no psychic phenomenon can be understood clearly and correctly (GALPERIN, 2001).

P. Ya. Galperin studied in an experimental way, in the school environment, the relations that are established between practical actions, objects and mental images that are formed in the minds of the subjects during the development of these actions. The author concludes that “the formation of any action always leads, at the same time, to the formation of the image of the object, and that the characteristics of that image are largely characteristics of the action itself”³⁵ (GALPERIN, 2001, p. 27). Also, according to this author, the objective world is contained in sensory and abstract images, in which all our knowledge about the world ends. “The problem of forming images [...] is a problem about how our knowledge is formed”³⁶ (GALPERIN, 2001, p. 28). As most of this knowledge is formed at school, the big challenge is to understand what would be the best way to form new representations and concepts in the school educational process. At the same time, within the scope of the teacher’s work, these relationships between the object, its image and the apprehension of cognitive truth need to be clarified to students.

Precisely, a central aspect for pedagogy and didactics refers to the quality of thought that we form at school. As is known, thought reaches different degrees or levels of development, depending almost always on the conditions of life and education and the place that the subject occupies in these relations. The most developed thinking, the theoretical, the one that really conceives the truth can be only one. This thought is distinguished only by its degree of development, and consequently, by the development of its thinking organ. “Everything else - says Marx - is pure reverie”³⁷ (MARX, 1973b, p. 443).

³⁴ “A relação teórica entre o sujeito e o objeto – resultado dela é tão só o conhecimento deste último, mas não a sua transformação – se origina e subsiste sob a base da prática”

³⁵ “a formação de qualquer ação sempre conduz, ao mesmo tempo, à formação da imagem do objeto, e que as características dessa imagem são em grande medida características da própria ação”

³⁶ “O problema da formação das imagens [...] é um problema acerca de como se formam nossos conhecimentos”

³⁷ “Todo o demais – diz Marx – é puro devaneio”

In other words, that thought captures reality at different levels of completeness, correspondence and penetration into the essence of the represented objects. The quality of the cognitive image depends on many factors, but there is one that seems to predominate: the place that the subject occupies in his life relations. As Lenin said: “If one considers the relation of the subject to the object in logic, one must also take into account the general premises of the existence of the concrete subject (= man's life) in the objective situation”³⁸ (apud KOPNIN, 1983, p. 132). This leads us to the reflection that, in the socio-educational relationships, in the school especially, the necessary conditions must be created for the development of the students' thinking at the highest level.

The formation of theoretical thinking at school

Returning to the theme of the school's social role, Professor Libâneo starts from two deep-seated convictions, not only in him, but also in an important part of the Brazilian intellectuality: the fact that the school continues to be the “space of intellectual and political democratization” by excellence; and the other, that the social inclusion policy should be based on the concept that the essence of the school is the students' learning, “based on theoretical thinking, associated with the students' motives, without which the schools would not be truly inclusive”³⁹ (LIBÂNEO, 2004, p. 6). In this direction, the following stands out:

The school continues to be a place of cultural mediation, and pedagogy, in making education feasible, constitutes an intentional cultural practice of producing and internalizing meanings to, in a way, promote the cognitive, affective and moral development of individuals. The *modus faciendi* of this cultural mediation, through the work of teachers, is the *provision to students of the means of acquiring scientific concepts and developing cognitive and operative capacities*, two elements of school learning that are interconnected and inseparable (LIBÂNEO, 2004, p. 5, our highlights).⁴⁰

These considerations lead us to the fact that students of any level of education go to school, or should go, to appropriate the cultural and scientific heritage of humanity and to

³⁸ “se se considera a relação do sujeito com o objeto na lógica, também há de se tomar em consideração as premissas gerais da existência do sujeito concreto (= vida do homem) na situação objetiva”

³⁹ “lastreada no pensamento teórico, associada aos motivos dos alunos, sem o que as escolas não seriam verdadeiramente inclusivas”

⁴⁰ A escola continua sendo lugar de mediação cultural, e a pedagogia, ao viabilizar a educação, constitui-se como prática cultural intencional de produção e internalização de significados para, de certa forma, promover o desenvolvimento cognitivo, afetivo e moral dos indivíduos. O *modus faciendi* dessa mediação cultural, pelo trabalho dos professores, é o *provimento aos alunos dos meios de aquisição de conceitos científicos e de desenvolvimento das capacidades cognitivas e operativas*, dois elementos da aprendizagem escolar interligados e indissociáveis. (LIBÂNEO, 2004, p. 5, grifo nosso).

acquire the cognitive tools necessary to know and transform the reality in which they live, fight, study and work. "For this, it is necessary to think - to stimulate the capacity for reasoning and judgment, to improve the reflexive capacity and to develop the thinking skills"⁴¹ (LIBÂNEO, 2004, p. 5). In view of these challenges, it is necessary to form teachers with the essential competence to help students become thinking, active subjects, capable of solving problems and dealing with the dilemmas of social and individual life.

But it seems that these challenges are not so current. Let us make a brief retrospective to return to the present. In the 1930s, Antônio Gramsci in his notes on the book **Lectures and Essays on University**, by Cardinal Newman,⁴² reflects on the method of university discipline and learning outcomes. Gramsci reproduces Newman's following quote about university discipline as being:

The formation of the intellect, that is, a habit of order and system, the habit of remitting all new knowledge to those we already have, and adjusting them reciprocally and, what matters most, the acceptance and use of certain principles as the center of thought... Where there is such a critical faculty, history is no longer a book of stories; the speakers and publications of the day lose infallibility; eloquence is not worth more than thought, nor bold statements or colorful descriptions take the place of arguments (NEWMAN *apud* GRAMSCI, 1999, p. 219).⁴³

The essence of the former is that Newman's judgment on university discipline, shared by Gramsci, refers to the formation of scientific thought, in intellectual discipline. In theory, this is the essence of the work of the school and teachers and its application is valid not only for universities, but for any educational institution that has its socio-educational responsibilities well defined. This 19th century idea, taken up by Gramsci in the first half of the 20th, reaches us today through the pedagogical and didactic science of authors like Vasili Davidov and José Carlos Libâneo, among others.

But it is clear to us that Gramsci discovers Newman through reading F. Engels. Engels wrote that theoretical thinking is just a natural gift when it comes to developing human capacities to exercise it. He also affirmed that this capacity needs to be cultivated and developed

⁴¹ "Para isso, é necessário pensar – estimular a capacidade de raciocínio e julgamento, melhorar a capacidade reflexiva e desenvolver as competências do pensar"

⁴² John Henry Cardinal Newman (1801-1890). English Anglican priest, converted to Catholicism. He was appointed cardinal by Pope Leo XIII in 1879.

⁴³ A formação do intelecto, ou seja, um hábito de ordem e de sistema, o hábito de remitir todo conhecimento novo aos que já possuímos, e ajustá-los reciprocamente e, o que mais importa, a aceitação e o uso de certos princípios como centro do pensamento... Ali onde existe semelhante faculdade crítica, a história não é já um livro de contos; os oradores e as publicações do dia perdem a infalibilidade; a eloquência não vale mais que o pensamento, nem as afirmações audazes ou as descrições coloridas ocupam o lugar dos argumentos (NEWMAN *apud* GRAMSCI, 1999, p. 219).

and that until today there is only one way to develop it, the study of previous philosophy. Obviously, Engels speaks of the *previous philosophy* due to the formidable contribution of this discipline to the organization of thought.

The empirical investigation of nature has accumulated an enormous mass of positive knowledge material, which the need to systematically order it and put its internal restraint in each field of investigation is simply irrefutable. And no less irrefutable is the need to establish the proper brake between the different fields of knowledge. But with this, the Natural Sciences enter the theoretical field, *where empirical methods fail and where only theoretical thinking can provide a service* (ENGELS, 1974a, p. 59, our highlights).⁴⁴

In this quote by Engels, it is clear that theoretical thinking is a capacity that is cultivated through theoretical abstractions that express the synthesis of knowledge of the reality of life. In his perspective, the analysis of the concrete facts, the discovery of the laws that underlie the appearance of the phenomena and the development of scientific concepts are indispensable for the formation of this type of thinking.

Today, we are all satisfied that all science, whether natural or historical, has to start from the facts given, and therefore, in the case of Natural Sciences, the various objective and dynamic forms of matter; in which, therefore, in the theoretical Natural Sciences the concatenations must not be constructed and impose themselves on the facts, but discover themselves in them and, once discovered, demonstrate themselves experimentally, as far as possible (ENGELS, 1974a, p. 63).⁴⁵

Establishing the theoretical concatenations between the facts and using them in experimentation for their empirical verification seems to be Engels' motto with regard to the formation of the theoretical thinking of human subjects. V. I. Lenin also agrees with this idea, but goes a little further, highlighting the importance of scientific concepts and their relationships in shaping thought. Lenin considers F. Hegel's fundamental idea to be simply brilliant. Refers to the

[...] idea of the universal, multilateral, living bond, of everything with everything and the reflection of this bond (Hegel materially inverted) in human concepts that, also, they must be tuned, worked, flexible, mobile,

⁴⁴ A investigação empírica da natureza tem acumulado uma massa enorme de material positivo de conhecimento, que a necessidade de o ordenar sistematicamente e pôr sua travação interna em cada campo de investigação é algo simplesmente irrefutável. E não menos irrefutável é a necessidade de estabelecer a devida travação entre os distintos campos do conhecimento. Mas com isto, as Ciências Naturais entram no campo teórico, *onde falham os métodos empíricos e onde só o pensamento teórico pode prestar um serviço*. (ENGELS, 1974a, p. 59, grifo nosso).

⁴⁵ Hoje, todos estamos conformes em que toda ciência, seja natural ou histórica, tem que partir dos fatos dados, e portanto, em se tratando das Ciências Naturais, das diversas formas objetivas e dinâmicas da matéria; em que, por conseguinte, nas Ciências Naturais teóricas as concatenações não devem se construir e impor-se aos fatos, senão descobrir-se nestes e, uma vez descobertos, demonstrar-se por via experimental, até onde seja possível. (ENGELS, 1974a, p. 63).

relative, interconnected, in their oppositions, in order to embrace the universe. The continuation of the work of Hegel and Marx must consist of the dialectical elaboration of the history of human science, technique and thought (LENIN, 2011, p. 136).⁴⁶

The reflection of the universal bond of the living whole expressed in flexible, mobile, concatenated concepts, covering the universe seems to be the task of theoretical thinking. Lenin (2011, p. 167) states that “in change, in the mutual relationship of all concepts, in the identity of their contradictions, in the transitions from one concept to another, in the eternal transition from one to another, in the movement of concepts”⁴⁷, Hegel sensed in a genius way the relationship of things in the world and in nature. In this sense, Lenin also conceptualizes human (theoretical) knowledge in a unique way:

Knowledge is the process of immersion of understanding in inorganic Nature, to subordinate it to the power of the subject and arrive at general concepts (the knowledge of the laws in the phenomena). The coincidence of thought with the object is a process. Thought (= man) must not represent truth in the form of dead rest - in the form of a simple pale (blurry) picture, without impulse, without movement -, like a genius, a number, an abstract thought (LENIN 2011, p. 166).⁴⁸

In other words, the author conceives knowledge as a thought process that approaches the object in successive and infinite phases. The reflection of reality, of nature, in human thought cannot be conceived in a static and dead way “not 'abstractly', not without movement, NOT WITHOUT CONTRADICTION, BUT IN THE ETERNAL PROCESS OF MOVEMENT, the emergence of contradictions and their resolution”⁴⁹ (LENIN, 2011, 167, author' highlights).

In this logic of philosophical reasoning, Davidov (1988) brings his contribution to psychology and didactics when he states that:

⁴⁶ [...] ideia do vínculo universal, multilateral, vivo, de tudo com tudo e do reflexo deste vínculo (Hegel invertido materialistamente) nos conceitos humanos que, também eles, devem ser afinados, trabalhados, flexíveis, móveis, relativos, interligados, unos nas suas oposições, a fim de abarcar o universo. A continuação da obra de Hegel e de Marx deve consistir na elaboração dialética da história da ciência, da técnica e do pensamento humanos (LENIN, 2011, p. 136).

⁴⁷ “na mudança, na relação mútua de todos os conceitos, na identidade das suas contradições, nas transições de um conceito a outro, na eterna passagem de um a outro, no movimento dos conceitos”

⁴⁸ O conhecimento é o processo de imersão do entendimento na Natureza inorgânica, para subordiná-la ao poder do sujeito e chegar a conceitos gerais (o conhecimento das leis nos fenômenos). A coincidência do pensamento com o objeto é um processo. O pensamento (=o homem) não deve representar a verdade sob a forma de repouso morto - sob a forma de simples quadro (imagem) pálido (embaçado), sem impulso, sem movimento -, como um gênio, um número, um pensamento abstrato (LENIN, 2011, p. 166).

⁴⁹ “não ‘abstratamente’, não sem movimento, NÃO SEM CONTRADIÇÃO, MAS NO PROCESSO ETERNO DO MOVIMENTO, do surgimento das contradições e da sua resolução”

In the process of work, man must take into account not only the external properties of objects, but also the internal connections that allow them to change their properties and make them pass from one state to another. These relations cannot be manifested until the practical transformation of objects takes place or without it, since it is only in this process that these relations are discovered (DAVIDOV, 1988, p. 116).⁵⁰

In turn, another eminent didacticist, M. A. Danílov (1984), states that the school's task is to teach students to think. For that, one cannot fail to analyze the complexity of what is studied, one cannot ignore the complexity of the studied problem, whose method of solution in each sphere of scientific knowledge has special difficulties. He asserts that psychological and didactic investigations show that the formation of the ability to think and act occurs, above all, through the involvement of students in a problem situation, in the solution of complex tasks that require a creative focus and putting in tension their individual potential. According to this author, students' intellectual development necessarily involves an independent solution to the problem, supported by scientific knowledge. "Teaching means to enrich knowledge and, at the same time, teach students to think, to learn, to approach objects, phenomena and problems dialectically, to educate students about the taste for theory and their aspiration to apply it in practice"⁵¹ (DANILOV, 1984, p. 108).

Davidov (1988; 1999), on the other hand, has insisted on the task of the school as the formation of the students' theoretical thinking, mainly through the development of scientific concepts, as opposed to empirical or everyday concepts. Due to the synthesis, we created a comparative table between these two classes of concepts.

⁵⁰ No processo do trabalho, o homem deve tomar em consideração não só as propriedades externas dos objetos, senão também as conexões internas que permitem cambiar suas propriedades e fazê-los passar de um estado a outro. Não se podem pôr de manifesto estas relações enquanto não se realize a transformação prática dos objetos nem sem ela, já que só neste processo ditas relações se põem ao descoberto (DAVIDOV, 1988, p. 116).

⁵¹ "Ensinar quer dizer petrechar de conhecimentos e, ao mesmo tempo, ensinar os escolares a pensar, a aprender, a abordar dialeticamente os objetos, fenômenos e problemas, a educar nos alunos o gosto pela teoria e sua aspiração a aplicá-la na prática"

Table 1 - Comparison between the particularities of empirical thinking and theoretical thinking⁵²

Elements of comparison	Empirical thinking	Theoretical thinking
How do they originate?	The process of creating and transforming mental representations originates in the practical activity of men. In the activity, men idealize aspects of life that can be seen through the senses and perception. This allows you to designate different classes of objects. Verbal designations help to create judgments: "this is a tree", "that is a house". A series of judgments can be replaced by a new word about a group of objects. The word-denomination allows to give the sensory experience the thought form.	Theoretical knowledge also has its genesis in the practical and sensory activity of men. This type of thinking fully develops object-sensory activity, recreating the universal nexus of reality. First, it idealizes the experimental aspects of production in the form of object-sensory cognitive experiment, but then in the form of a mental experiment, carried out through concepts. The scientific concept is the universal form of expression of theoretical thinking.
What are they?	Empirical thinking is the transformed and verbally expressed form of the activity of the sense organs linked to real life; it is a derivation of men's object-sensory activity. Empirical thinking is directly related to material and socio-productive activity, but empirical is not only direct knowledge of reality, but immediate knowledge of reality, expressed through the category of present existence, quantity, quality, property, measure, etc. Empirical thinking expresses the external and immediate character of the object, described by the category of its existence in time and space. Empirical thinking is incapable of giving rhythm to an integral system of essential relations of objects and phenomena of reality. In empirical thinking, objects appear as represented autonomous realities.	Theoretical thinking is human existence mediated by practice and reflected in its essence (concept). Theoretical thinking is the idealization of the essential-universal forms of things, discovered through object-practical activity. It allows to carry out mental experiments with the objects reflected through the concepts. Mental experiments are characterized by: 1) the essence of the known object is clearly revealed; 2) the known object becomes the object of future mental changes; 3) the known object is located in a larger network of conceptual relationships. Only in these relations does its content unravel and without which it does not exist. In theoretical thinking, objects appear as a means of manifesting others within a larger whole. The internal connections of the system are the object of theoretical thinking.

⁵² In this table, the terms theoretical thinking and theoretical knowledge are used interchangeably to designate the unity between abstraction, generalization and concept. We are also talking here about scientific knowledge, a type of knowledge in which the movement from the abstract to the concrete takes place most noticeably. But, as Davidov (1988, p. 155) states: "[...] scientific knowledge is only one of the developed forms of people's social conscience, to which, in addition, art, morals, and law belong; thought also works on them [...]". Which makes us clear that other types of thinking are also relevant. Because of its importance for schooling, we refer here only to the types of thought compared.

<p>What are they for?</p>	<p>With the help of general representations of reality and objects and with the judgments expressed from them, men can make quite complex reasons: interpret animal footprints in the field, make simple calculations, project work activity.</p>	<p>Operates with concepts. The concept becomes the object of mental activity that reproduces the object in its system of relations, reflecting the universality of the movement of the known object. The concept is simultaneously: a way of reflecting the object, means of its reproduction and special mental action. It serves to express the deep, scientific movement of reality.</p>
<p>How do they form?</p>	<p>Empirical knowledge is formed in the process of comparison between objects belonging to a series or group of objects and their mental representations, which allows the identification of characteristics and properties that are the same among them, almost always external or phenomenological. (Birds have a beak, their bodies covered in feathers and almost all fly). Objects can be described verbally as a result of the subjects' observations and perceptions. Differentiation and classification appear as general representations of empirical concepts. Empirical concepts capture external repetitions, similarities, dismemberments of general properties. The internal and essential relationships of objects are not captured. The empirical concept expresses difference and contradiction, but not the transition from one to the other.</p>	<p>Theoretical knowledge appears in the process of analyzing the role and function of certain peculiar relationships within an integral system, series or group of objects that, at the same time, serve as a general genetic basis for the identification of the particular cases of the series or group. (The triangle is a closed geometric figure, formed by three straight segments). Theoretical thinking discovers media coverage within the whole. The concept brings together similar, different, coincident, contradictory characteristics and forms the synthesis of the diverse. The specific content of the theoretical concept is the objective relation between the universal and the singular of the object (Marx's concrete thought). The concept expresses the connection, the transition, the law, the need for singular things.</p>
<p>What is the basis of intellectual construction?</p>	<p>Empirical knowledge is built based on observation. They reflect, in their representations, the external properties of the observed objects. (Birds have colorful beaks and feathers). In empirical knowledge, the general formal property of a set of objects is separated. The identification of the formal property allows to group the objects in a determined class, without considering if these objects are linked to each other. (All animals whose bodies are covered with feathers are birds; which is not certain).</p>	<p>Theoretical knowledge is built through the mental transformation of the objects studied, which facilitates capturing the internal connections that determine the essential quality of the object. This allows you to escape the limits of external representation. (The idealization of several types of triangles allows to identify the essential relationships of the series). In theoretical knowledge, the procedures of analysis, abstraction and generalization allow to identify the genetically initial relation of the system as its essential and universal basis.</p>
<p>How is the general property of the object identified?</p>	<p>In empirical knowledge, the general property of the series or group of objects is formally separated as something that belongs to the same order as the specific peculiarities of the objects of the series or group. (The birds have their bodies covered in feathers).</p>	<p>Theoretical knowledge establishes the universal-singular connection, really existing, of the general system with the particular cases of the series or group in question. The universal and the singular are integrated in an immediate unity.</p>

How is knowledge concretized and fixed?	Empirical knowledge is realized through the selection of illustrations, examples and specimens that are part of the corresponding series or group of objects. Empirical knowledge has as its essential means of fixing the word-terms that designate objects and their characteristics.	Theoretical knowledge is realized through a double movement: 1) the universal-essential foundation of the studied concept is discovered; 2) the explanation of the particular manifestations of the series is explained starting from its universal foundation. Theoretical knowledge is fixed with the help of symbolic and semiotic means (languages), concepts.
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Source: Devised by the authors based on Davidov Chapter IV (1988).

In Davidov's work, the author insists on the role of the school and the work of teachers in the formation of scientific knowledge (concepts) in students, even from the first school years. For Davidov, Lenin's thesis that "to understand means to express in the form of concepts" is very important. In other words, that "expressing the object as a concept means understanding its essence"⁵³ (DAVIDOV, 1988, p. 126). In other words, students must be able to mentally reproduce the content of the object, its essence, and build it mentally. Starting from practical experience, in working with learning objects, students understand, explain and discover their essences.

Davidov (1988) identifies with Kant's idea that thinking means acting: "We cannot imagine a line without drawing it mentally, we cannot imagine a circle without describing it, we cannot represent the three dimensions of space without drawing from a point, three lines perpendicular to each other"⁵⁴ (KANT *apud* DAVIDOV, 1988, p. 126). But this outline, its mental description, implies the reconstruction of the object on the ideal plane, in thought. To assist them in this task, students and teachers rely on symbolic, iconic systems, different languages, graphic, linguistic and numerical representations.

This is possible because symbolic and iconic systems (languages) act as mediators or mental instruments to reveal the essence (universality) of objects and phenomena captured sensorially by the subject. "The exposure and the expression in symbols of the mediatized existence of things, of their universality, is nothing but the passage, the theoretical reproduction of reality"⁵⁵ (DAVIDOV, 1988, p. 127).

If any criticism is due to Davidov, it is that he carried too much hand in the formation of scientific concepts at school, to the point that, at times, one has the impression that the author

⁵³ "expressar o objeto na forma de conceito significa compreender a sua essência"

⁵⁴ "Nós não podemos imaginar uma linha sem traçá-la mentalmente, não podemos imaginar um círculo sem descrevê-lo, não podemos representar as três dimensões do espaço sem traçar desde um ponto três linhas perpendiculares entre si"

⁵⁵ "A posta ao descoberto e a expressão em símbolos da existência mediatizada das coisas, de sua universalidade, não é outra coisa que a passagem, a reprodução teórica da realidade"

does not consider the existing unity between scientific knowledge and empirical knowledge, between every day and scientific concepts, an aspect that did not escape Vigotski in the 1930s. For this last author, the scientific concepts:

They already presuppose the existence of childish or sufficiently rich and mature concepts, without which the child does not have what should be the object of his awareness and systematization. The primary system, which arose in the sphere of scientific concepts, is structurally transferred to the field of everyday concepts, restructuring them, modifying their internal nature from above. The one and the other (the dependence on the scientific concepts of the spontaneous and the reciprocal influence of the first in the seconds) is detached from this specific relationship that exists between the scientific concept and the object (VIGOTSKI, 1934/1997, p. 216).⁵⁶

Also, the focus placed by Davidov on the formation of theoretical thinking can lead to the neglect of the unity between the cognitive and the affective at school, as will be seen in the subtitle that follows. It is clear that Davidov was fully aware of the unity between empirical and scientific thinking, as well as the unity between the affective and cognitive spheres of personality, as shown in the author's quotes used in this text. However, the author's hasty readings can lead to many confusions in this regard.

Libâneo and Freitas (2015), studying Davidov's work, come to the conclusion that the author has devoted his whole life to looking for answers to questions like these: “What is the relation between education and teaching and mental development? [...] Is it possible through teaching and education to form in a person certain mental capacities or qualities that he did not previously had?”⁵⁷ (p. 338). Libâneo also points out that Davidov's ideas about developmental teaching are based on Vygotsky's thought and summarizes them as follows:

- a) Education and teaching are determining factors of mental development, including being able to go ahead with the child's real development.
- b) The social origins of the development process must be taken into account, that is, individual development depends on the development of the collective. Cognitive activity is inseparable from the cultural environment, taking place in an interpersonal system so that, through interactions with this environment, students learn the cognitive and communicative instruments of their culture. This characterizes the process of internalizing mental functions.
- c) Education is a component of human activity oriented to the development of thought through the students' learning activity (formation of theoretical

⁵⁶ Pressupõem já a existência de uns conceitos infantis ou suficientemente ricos e maduros, sem os quais a criança não tem o que deverá ser objeto de sua tomada de consciência e sistematização. O sistema primário, surgido na esfera dos conceitos científicos se transfere estruturalmente ao campo dos conceitos quotidianos, reestruturando-os, modificando sua natureza interna desde acima. O um e o outro (a dependência dos conceitos científicos dos espontâneos e a influência recíproca dos primeiros nos segundos) se desprende dessa relação específica que existe entre o conceito científico e o objeto (VIGOTSKI, 1934/1997, p. 216).

⁵⁷ “Qual é a relação entre educação e ensino e desenvolvimento mental? [...] É possível por meio do ensino e da educação formar numa pessoa certas capacidades ou qualidades mentais que não tinha anteriormente?”

concepts, generalization, analysis, synthesis, theoretical reasoning, logical thinking), from elementary school.

d) The basic reference of the teaching process are the scientific objects (the contents), which need to be appropriated by the students through the discovery of an internal principle of the object and, from there, reconstructed in the form of a theoretical concept in the joint activity between teacher and students. The subject-object interaction implies the use of symbolic mediations (systems, schemes, maps, models, that is, signs, in a broad sense) found in culture and science. The reconstruction and restructuring of the object of study constitutes the internalization process, from which the students' own way of thinking is restructured, thus ensuring their development (LIBÂNEO, 2004, p. 15).⁵⁸

From our point of view, the previous statements summarize the problem of the formation of theoretical thought in school quite well. Which, once again, is not an easy occupation. It is a scientific and human task that challenges the policies of States, the role of educational systems, the role of intellectuals, the professional performance of teachers and the role of students in the learning process.

The affective-cognitive unit in human development

As already explained in the Introduction, *the integral formation of students' personality at school* is obviously a multidimensional process. But, in our understanding, the two dimensions that constitute the dialectical unity - *the cell*, Marx would say - of this type of formation to which it is legitimate to aspire, are the unity of the cognitive and the affective. The cognitive-affective unit is the gateway to the type of comprehensive education we are talking about. From this unity, which cannot be compared in its elements, it is possible to affirm that there is no real cognitive development if there is not an emotional identification with what is being learned at school. In the same way, to the extent that the subject enhances his emotional development with respect to certain scientific knowledge, cognitive development is also

⁵⁸ a) A educação e o ensino são fatores determinantes do desenvolvimento mental, inclusive por poder ir adiante do desenvolvimento real da criança.

b) Devem-se levar em consideração as origens sociais do processo de desenvolvimento, ou seja, o desenvolvimento individual depende do desenvolvimento do coletivo. A atividade cognitiva é inseparável do meio cultural, tendo lugar em um sistema interpessoal de forma que, através das interações com esse meio, os alunos aprendem os instrumentos cognitivos e comunicativos de sua cultura. Isto caracteriza o processo de internalização das funções mentais.

c) A educação é componente da atividade humana orientada para o desenvolvimento do pensamento através da atividade de aprendizagem dos alunos (formação de conceitos teóricos, generalização, análise, síntese, raciocínio teórico, pensamento lógico), desde a escola elementar.

d) A referência básica do processo de ensino são os objetos científicos (os conteúdos), que precisam ser apropriados pelos alunos mediante a descoberta de um princípio interno do objeto e, daí reconstruído sob forma de conceito teórico na atividade conjunta entre professor e alunos. A interação sujeito-objeto implica o uso de mediações simbólicas (sistemas, esquemas, mapas, modelos, isto é, signos, em sentido amplo) encontradas na cultura e na ciência. A reconstrução e reestruturação do objeto de estudo constituem o processo de internalização, a partir do qual se reestrutura o próprio modo de pensar dos alunos, assegurando, com isso, seu desenvolvimento. (LIBÂNEO, 2004, p. 15).

simultaneously reinforced. The affective-cognitive sphere thus results in an inter-functional unity of the personality components that form the basis of the other dimensions of the students' education.

Vygotsky laid the foundations for scientific understanding of the affective-cognitive unity in human development:

The way of thinking, which along with the system of concepts was imposed on us by the environment around us, also includes our feelings. We don't just feel: the feeling is perceived by us in the form of jealousy, anger, outrage, offense. If we say that we despise someone, the fact of naming feelings causes them to vary, since they maintain a certain relation with our thoughts. [...] at the affective level we never experience jealousy in a pure way, because at the same time we are aware of its conceptual connections (VIGOTSKI, 1930/1999, p. 126).⁵⁹

In this same work, Vygotsky places the study of affects or emotions in the historical perspective of the subject's ontogenetic development. The author states that "complex emotions appear only historically and are the combination of relations that arise as a result of historical life, a combination that occurs in the course of the evolutionary process of emotions"⁶⁰ (VIGOTSKI, 1930/1999, p. 127). The development of emotions consists, essentially, in that they alter the initial conditions in which they appeared and create a new order and new connections in their relationship with the subject's cognitive sphere. Thus, for example, the contempt of one person for another necessarily comes into connection with the valuation that the first has of the person who is the object of contempt. Vygotsky's research has shown that the fact that the subject thinks about things that are outside of him does not alter these things at all; but the fact of thinking about one's own affections, placing them in relation to his intellect and other situations, greatly alters the subject's psychic life. Thus, it can be said that our human life takes place in a complex synthesis between the cognitive and the affective.

Among several other authors of historical-cultural psychology and didactics, researchers such as González Rey (2000; 2003) and Libâneo (2004) have given dignified continuity to studies on the cognitive-affective unit in human development. The first points out the following:

By granting emotion a status similar to that of cognition, in the constitution of the different processes and forms of organization of the psyche, Vygotsky is

⁵⁹ A forma de pensar, que junto com o sistema de conceitos nos foi imposta pelo meio que nos rodeia, inclui também nossos sentimentos. Não sentimos simplesmente: o sentimento é percebido por nós sob a forma de ciúme, cólera, ultraje, ofensa. Se dizemos que desprezamos alguém, o fato de nomear os sentimentos faz com que estes variem, já que mantêm uma certa relação com nossos pensamentos. [...] no nível afetivo nunca experimentamos os ciúmes de maneira pura, pois ao mesmo tempo estamos conscientes de suas conexões conceituais (VIGOTSKI, 1930/1999, p. 126).

⁶⁰ "as emoções complexas aparecem somente historicamente e são a combinação de relações que surgem em consequência da vida histórica, combinação que se dá no transcurso do processo evolutivo das emoções"

suggesting the independence of emotions, in their origin, from cognitive processes, and integrating emotions within a complex view of the psyche which represents an important antecedent for the theoretical construction of the subjectivity theme (GONZÁLEZ REY, 2003, p. 137).⁶¹

Libâneo, for his part, points out that the studies carried out by González Rey on the integration of the affective and the cognitive in the personality make it possible to relate Davidov's ideas to Vygotski's on this issue, since Davidov insists on the idea that human actions are linked to the subject's needs and emotions, and they precede action, language and relationships with others. "This means that human actions are impregnated with subjective meanings, projecting themselves in various spheres of the subjects' lives, obviously also in the students' activities, in the understanding of school subjects, in involvement with the studied subject"⁶² (LIBÂNEO, 2004, p. 14). For his part, Davidov (1999), is very emphatic in highlighting the affective-cognitive unity in human development:

The most important thing in scientific activity is not reflection, nor thinking, nor the task, but the sphere of needs and emotions [...]. Emotions are much more fundamental than thoughts, they are the basis for all the different tasks that a man establishes for himself, including the tasks of thinking. [...] The general function of emotions is to enable a person to do certain vital tasks, but this is only half done. The most important thing is that emotions enable a person to decide, right from the start, whether, in fact, there are the physical, spiritual and moral means necessary for him to achieve his goal (DAVYDOV, 1999, p. 7).⁶³

A little further back, in dialectical philosophy, starting from Marx and his followers, the foundation has been elaborated that, based on work as a fundamental activity of man, in the ontogenetic process of development, other specific activities are created and, among them, the study activity, in solid connection with the subject's volitional-affective sphere. On this basis, it can also be seen that there is a transit and a continuity that goes from the historical-cultural psychology of Vygotsky to González Rey - among other authors not mentioned -, to the developmental didactics of Davidov and Libâneo - among other authors, neither referenced -

⁶¹ Ao outorgar à emoção um status similar ao da cognição, na constituição dos diferentes processos e formas de organização da psique, Vygotsky está sugerindo a independência das emoções, em sua origem, dos processos cognitivos, e integrando as emoções dentro de uma visão complexa da psique que representa um importante antecedente para a construção teórica do tema da subjetividade. (GONZÁLEZ REY, 2003, p. 137).

⁶² "Isso significa que as ações humanas estão impregnadas de sentidos subjetivos, projetando-se em várias esferas da vida dos sujeitos, obviamente também na atividade dos alunos, na compreensão das disciplinas escolares, no envolvimento com o assunto estudado"

⁶³ A coisa mais importante na atividade científica não é a reflexão, nem o pensamento, nem a tarefa, mas a esfera das necessidades e emoções [...]. As emoções são muito mais fundamentais do que os pensamentos, elas são a base para todas as diferentes tarefas que um homem estabelece para si mesmo, incluindo as tarefas do pensar. [...] A função geral das emoções é capacitar uma pessoa a pôr-se certas tarefas vitais, mas este é somente meio caminho andado. A coisa mais importante é que as emoções capacitam a pessoa a decidir, desde o início, se, de fato, existem meios físicos, espirituais e morais necessários para que ela consiga atingir seu objetivo. (DAVYDOV, 1999, p. 7).

on the relevance of the cognitive-active unit, both for psychology and didactics, as well as for the work of teachers.

Developmental didactics have as one of their main theoretical axes the fact that school learning, intellectual development and affective development of students must constitute an indispensable dialectical unit in the work of teachers, for which these professionals need to be properly trained.

Final considerations

We start from the thesis that the real social responsibility of the school is *the integral formation of the personality of all students, in each new concrete historical situation*. We consider that fully forming the students' personality, educating them to live, study and work in certain concrete historical conditions presupposes, simultaneously, moral, cognitive, affective, aesthetic, political, economic education, etc., as dimensions of the same process educational.

As a result of the study, we present here a theoretical synthesis about the formation of human thought and the role of the school and the teacher in this task, through the analysis of the following categories (thematic nodes): materialist conception of history; unity between social experience and consciousness; characterization of man's thinking; thinking as a theoretical activity; formation of theoretical thinking at school and the unity between cognitive and affective in human development, each approached from the interdisciplinary perspective of dialectical philosophy, historical-cultural psychology and developmental didactics.

In the opinion of the authors, on the methodological level, the interdisciplinary dialogue on the same categories of analysis, considered here as essential for the study, having as support classical authors of philosophy (Marx, Engels, Lenin, Gramsci, Kopnin), of historical-cultural (Vigotski, Leontiev, Galperin, González Rey) and developmental didactics (Davidov, Danilov, Líbâneo), made it possible to perform the task modestly, but above all, it resulted in a unique learning experience.

Obviously, the study is partial and incomplete. The impact of our intellectual limitations for carrying out the task does not escape us, aggravated by the numerous responsibilities and the prompt delivery time. The authors contemplated for the study are all classics, some of them inexhaustible, and that deserve particular studies, but that was not the purpose. Other philosophers, psychologists and teachers - Russians, Cubans, Brazilians or Mexicans - with equal rights could be part of the sample, but it was not possible to contemplate them now. Time will come when this is plausible. Our most sincere apology to all of them.

If the discussion we present about the scope of the selected categories provides any contribution to the scientific understanding of education, the school and the professional work of teachers, the authors are satisfied.

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