

# School and professionalization: notes on the specialization of the working class

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**ABSTRACT.** The debate seeks to clarify what is conceived by profession. The goal is to find better conditions to understand the process of vocational schooling offered to the working class. The focus is on clarifying elements that distinguish points of convergence and divergence between professionalization, specialization and schooling, among other terms that are confused in the curricula that educate workers. For the present article, it is key to note not only the semantic-terminological questions, but the ontological ones. In order to carry out this task, work is taken as the founding moment of human life in society, since, as Marx understands, the act of working is the element that sustains human social life. Hence, regarding the methodology, the arguments is grounded on an ontomaterialist perspective. Therefore, there will be adequate conditions to analyze the articulation of what is referred to as vocational schooling, on the one hand, with what is conceived as a profession on the other, which takes school as a mediator. The present article, of theoretical, bibliographical and documentary nature, aims, therefore, to analyze the role of vocational schooling in the education of the working class.

**Keywords:** vocational schooling; specialization; curriculum; education; worker education; profession.

## Escola e profissionalização: notas sobre a especialização da classe trabalhadora

**RESUMO.** O debate aqui apreendido procura embasar o que se entende por profissão. Objetiva-se encontrar melhores condições de entender o processo de escolarização profissionalizante ofertado à classe trabalhadora. O que interessa é aclarar elementos que permitam extrair as áreas de contato e de distanciamento entre profissionalização, especialização e escolarização, entre outros termos que se confundem nos currículos voltados à formação de trabalhadoras e trabalhadores. O importante, para o presente artigo, é anotar não só as questões semântico-terminológicas, senão ontológicas. Para cumprir essa tarefa, toma-se o trabalho como momento fundante da vida humana em sociedade, pois, como entende Marx, o ato de trabalhar é o elemento que sustenta a vida humano-social. Ou seja, em relação à escolha metodológica, opta-se por construir a exposição sobre a base ontomaterialista. Desse modo, ter-se-á condições adequadas de analisar a articulação entre o que se chama de educação profissional de um lado, e o que se concebe como profissão de outro, que tem a escola como mediadora. O presente artigo, de caráter teórico, bibliográfico e documental, tem como objetivo, portanto, analisar o papel da escolarização profissionalizante na formação da classe trabalhadora.

**Palavras-chave:** escolarização profissionalizante; especialização; currículo; formação; educação de trabalhadores; profissão.

## Escuela y profesionalización: apuntes sobre la especialización de la clase obrera

**RESUMEN.** El debate aquí apreendido busca fundamentar qué se entiende por profesión. El objetivo es encontrar mejores condiciones para comprender el proceso de escolarización-profesionalización ofrecido a la clase trabajadora. Lo que importa es esclarecer elementos que permitan extraer las áreas de contacto y distancia entre profesionalización, especialización y escolarización, entre otros términos que se confunden en los currículos que forman trabajadores. Lo importante, para el presente artículo, es señalar no sólo las cuestiones semántico-terminológicas, sino ontológicas. Para cumplir con esta tarea, se toma al trabajo como el momento fundante de la vida humana en sociedad, ya que, como entiende Marx, el acto de trabajar es el elemento que sustenta la vida humano-social. Es decir, en relación con la elección metodológica, se optó por construir la exposición sobre una base ontomaterialista. De esta forma, habrá condiciones adecuadas para analizar la articulación entre lo que se denomina formación profesional por un lado, y lo que se concibe como profesión por otro, que tiene a la escuela como mediadora. El presente artículo, teórico,

bibliográfico y documental, tiene como objetivo, por lo tanto, analizar el papel de la escolarización-profesionalización en la formación de la clase trabajadora.

**Palabras clave:** educación vocacional; especialización; plan de estudios; capacitación; educación obrera; profesión.

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## Introduction

The present debate aims to clarify what is conceived by profession. The goal is to find better conditions to understand the process of vocational schooling offered to the working class. The focus is on clarifying elements to distinguish points of convergence and divergence between professionalization, specialization and schooling, among other terms that are confused in the curricula that educate workers. For the present article, it is key to note not only the semantic-terminological questions, but the ontological ones.

In order to carry out this task, work is taken as the founding moment of human life in society, since, as Marx understands, the act of working is the element that sustains human social life. Hence, regarding the methodology, the arguments is grounded on an ontomaterialist perspective. Therefore, there will be adequate conditions to analyze the articulation of what is referred to as vocational schooling, on the one hand, with what is conceived as a profession on the other, which takes school as a mediator. The present article, of theoretical, bibliographical and documentary nature, aims, therefore, to analyze the role of vocational schooling in the education of the working class.

First, based on the *The Ontology of Social Being* by Lukács (2018), it is assumed that education rises along with the first albeit instinctive forms of work. From the Ontology, it is proposed the discussion on the relationship between education and vocational schooling offered by the peripheral decadent Brazilian capitalism to young workers.

For final remarks, the article indicates that the purpose of education offered to the working class, especially in the context of the structural crisis of capitalism (Mészáros, 2002), is to adapt the working class to the development of capitalism. As the capitalist means of production gains in complexity, schools – and most notably vocational schooling – becomes more dependent on the State's mediation to adjust the working class to the labor market.

## Contextualizing factors

The National Curricular Guidelines (NCG) organize the relationship between schooling and professional education in Brazil, according to the Law of Educational Guidelines and Bases (Law 9.394, 1996, henceforth LEGB). The Guidelines allow for a better understanding of the re-signification of worker's education. Article 18 explains the criteria for planning and organizing courses for Technical Professional Education in Secondary Education [TPSE]:

- I – meeting environmental social-economic demands for citizens and labor market in terms of the ethical commitment for / with students and society;
- II – adjusting vocation-related demands to the capacity of institutions or schooling system in terms of real conditions for the pedagogical project;
- III – possibilities of curricular organization according to itineraries of instruction organized in technological axes, concerning the social-occupational and technological structure in accordance with inducing public policies and local social-productive and cultural arrangements;
- IV – identification of course-specific professional configuration to ensure the full development of knowledge, information as well as professional and personal skills required by the nature of each particular work, according to the technological axes, in terms of social-occupational and technological structure and capable of answering originally and creatively to the challenges of social and professional life (Resolução n. 6, 2012, p. 5-6).

It is clear that the governmental document establishes a direct relationship between the education of young workers and the bourgeoisie-capitalist citizenship. To achieve the goal of re-signifying the working-class school education, schools – especially vocational schools – are invited to perform a double task in the aggravating crisis of capitalism. On the one hand, it is necessary to educate workers who meet the demands of Brazilian peripheral capitalism, on the other hand, it is necessary to pacify them ideologically to accept vocational schooling and, with it, to thank for the divine mercy of the State.

Researchers and educators consult the LEGB, the document responsible for organizing the structure and the working of Brazilian education, as the primary source for understanding Brazilian educational legislation. Concerning vocational education, the LEGB divides the relationship school-vocation into two chapters: Chapter II – on Fundamental Education (Section IV-A-of the Technical Professional Education in Secondary Education); and Chapter III – of the Professional and Technological Education. The first approaches the specificities of fundamental and vocational education, whereas the second specifies the elements of professional education in higher education.

Class organizations, teaching institutions, teachers and representatives met in public audiences<sup>1</sup> to debate the recurring vocational education reforms, to discuss the National Curricular Guidelines for what is known as Vocational and Technological Education in Secondary Education. The result was published under the title of ‘National Curricular Guidelines for Technical Professional Education in Secondary Education in debate: a manuscript to foster discussion’ (1999). The document understands that the writing of the LEGB in particular regarding secondary education and vocational schooling is minimalist and ambiguous. Chapter II discusses secondary education whereas vocational schooling belongs to Chapter III, composed of three short articles.

As proposed by the LEGB, Brazilian education is structured into two levels – fundamental education and higher education – by not placing vocational schooling in either level, the text reveals and assumes an ambiguous standing of vocational schooling as apart from regular Brazilian education, it is proposed in parallel or as an appendage (Diretrizes..., 1999, p. 12)<sup>2</sup>.

Let us read into section IV-A of the LEGB, Chapter II. Article 36 indicates that secondary education should offer “[...] students’ full education[...]” and it can also “[...] prepare them for technical professional activities” (Senado Federal, 2019, p. 25). The sole paragraph in the article clarifies that “[...] workers’ overall instruction and, facultatively, professional licenses can be developed in secondary education or in cooperation with specific vocational schools” (Senado Federal, 2019, p. 26). It does not say, however, that such institutions can – “must” – be private.

Article 36-B informs that TPESE must be developed in two ways: “I – in articulation with secondary education; [and] II – subsequential, in courses for former secondary education students” (Senado Federal, 2019, p. 27). The document fails to explicit that TPESE may be offered in two different formats. Article 36-C explains that TPESE must be offered as follows: “I – integrated, offered exclusively to students who have completed primary education, to provide them with technical professional education in secondary education, in the same institution, under a single school register”. In addition, students can choose: “II – parallel, offered to secondary education students under different registers for each course” (Senado Federal, 2019, p. 29). In case young workers choose the latter, they must be aware of three combinations:

- a) the same institution, making use of the educational opportunities available; b) distinct institutions, making use of the educational opportunities available; c) distinct institutions through inter-complementary partnerships, aiming at the unified pedagogical planning and development; (Senado Federal, 2019, p. 29).

Students have a true *buffet* at their disposal as it is stated. Students can choose whatever they wish! But only seemingly. Students who work and organize their daily activities around providing for themselves are unable to choose attending different schools; for instance, they are unable to attend secondary education in one institution by morning and to attend vocational school in the afternoon or at night at a different institution.

The parallel arrangement, that combines vocational schooling and secondary education, is currently preferred by educational public policies and known as “integrated education”. Indeed, sponsored by the media, several of those initiatives have been installed in the country.

Moreover, article 36-D in the LEGB states that degrees from those institutions “[...] once registered, they will be recognized nationwide and will allow [the holder] to continue their studies in higher education”. (Senado Federal, 2019, p. 27). Finally, the single paragraph in the article indicates that such courses:

<sup>1</sup> A footnote in the “Diretrizes Curriculares Nacionais para a Educação Profissional Técnica de Nível Médio em debate: texto para discussão” informs the following: “The first assembly took place on 11th March 2010, in Rio de Janeiro. The second on 15th April in São Paulo/SP as part of the Seventh Forum Fórum Estadual de Educação Profissional.” (Diretrizes Curriculares Nacionais para a Educação Profissional Técnica de Nível Médio em Debate: texto para discussão, 1999, p. 1). The present article is based on the updated LEGB published in 2019; the cited document passes criticism upon the document available in 2010.

<sup>2</sup> The document states: “Law 11.741/08, by modifying LEGB, places vocational schooling in secondary education in Chapter II, on Primary Education, declaring that such educational format is part of that level of education.” (Diretrizes..., 1999, p. 12).

[...] in both articulated concurrent and subsequential formats, if structured and organized in well-defined stages, may grant work qualification certificates after each successfully completed stage that corresponds to a specific professional skill (Senado Federal, 2019, p. 29).

In Chapter III, LEGB details the so-called Vocational and Technological Education. Article 39 explains that “[...] vocational and technological education integrates the many levels and formats of education and the dimensions of work, science and technology to meet the national goals for education”. The 1st clause defines that courses “[...] may be organized in technological axes enabling the construction of different educational itineraries, abiding by the rules of their respective education system and level”. The 2nd clause, in turn, defines the three great formats of that type of schooling which, according to the national documents can take the following format: “I – initiation and continued professional education; II – technical professional education in secondary education; III – technological vocational education at the superior level of undergraduation and graduation” (Senado Federal, 2019, p. 31). Finally, the last paragraph in article 39 explains that technological undergraduation and graduation courses must follow the National Curricular Guidelines proposed by the National Committee for Education (NCE).

Given the articulation of vocational and technological education in different levels and formats, article 40 seeks to answer how should that articulation take place: “[...] regular education or continued professional development at specialized institutions or at work” (Senado Federal, 2019, p. 30). Finally, article 42<sup>3</sup> determines that institutions who offer vocational schooling through regular schools “[...] in addition to regular schooling, they [may] offer special courses open to the community as long as admission is conditional upon the potential to benefit from the course, rather than strictly on the schooling level” (Senado Federal, 2019, p. 32).

Could that be more confusing? The document juxtaposes of a modality that, despite being one modality in itself, is articulated with another one, as well their different levels. The parameters are unclear and the text is even more confusing considering that such an integration can comprehend from primary education to graduation. The text omits any mention of funding.

According to the criticism in the very hallmark of TPESE (Diretrizes..., 1999, p. 20): “Reading from articles 36-A to 42 reveals the disarticulation of initial and continued education courses with either level of education”: primary or higher. Article 40, however, “[...] raises some questions from the claim that vocational schooling will be developed in articulation with regular schooling or through different strategies of continued education”. To outline its criticism of LEGB, the document states that “[...] the expression ‘articulated with’ allows for the understanding that vocational and technological schooling is not part of regular education” (Diretrizes..., 1999, p. 20).

After this brief explanation of the inconsistencies and confusions of official documents regarding vocational schooling, it is necessary to resume the real motives to resignify education for the working class.

In the face of demands for the new standard of production demanded by the crisis affecting contemporary capitalism, education must revisit – resignify – educational theories and schooling models. In order to conform to “new models”, schools create innovating teaching methods that propose entrepreneurial education. Therefore, school planning and methods, subjects, techniques, curricula, as well as evaluation processes must conform to the “new education paradigms”. Such models are redirected to provide vocational schooling to the working class.

There should be no issue in the fact that schools, moved by historical dialectics, are not safe from the effects of the structural crisis of capital, which affects all social spheres. Since schools are part of the social fabric, they cannot be excluded from the consequences of a retroacting economy on education. Through processes of relative autonomy and dialectic reciprocity, the education complex must play its role. Vocational schools however are not able to provide – according to the State that is managing the crisis – at once, vocational education and grant students with an assumed super-condition of solving unemployment, urban violence, environmental endangerment and sanitary issues, among many other factors that are inherent to the crisis and not exclusive to schools, in particular, vocational institutions<sup>4</sup>.

According to Webster Belmino (2020), capitalist means of production is a factory of illusions that aims at defending schools as a foundation for social mobility, something that, in the social fabric, meets “[...] the wishes of the popular class which often sacrifices the most to provide the younger generations with access to formal education and to, somehow, interrupt the cycle of poverty inherited from previous generations” (Belmino, 2020, p. 22-23).

<sup>3</sup> According to the official text, Art. 41 was revoked.

<sup>4</sup> Research defending education and vocational schooling, peremptorily, as the solution to the crisis are plenty and from various fields.

The factory of illusions that uses its own rhetoric to a given end does not affect the working class exclusively. Following the teachings of Marx and Engels (2007), the rhetoric ideology, according to which vocational schooling is good and necessary for young workers, given its rooted in hegemonic ideologies, spreads as a fact in daily life.

Even though under the Equator the elite is anachronical backward, like Octávio Ianni (1992) stated so well, the endogenous elite follows the ideological determinations of an exogenous elite that controls the international capital. The articulation of our elite's idiosyncrasy of backwardness with the commanders of foreign capital takes shape in the several dimensions of local politics. That articulation leads to the reproduction of arguments in favor of vocational schooling by Brazilian politics to the lowest classes: "Electoral propaganda is more of the same. If education plays that role, vocational schooling has strengthened in the last decades as the cherry on top of the pie" (Belmino, 2020, p. 23). Independently from partisan alignment, the argument is always the same: vocational schooling is the antidote for violence, unemployment, environmental deterioration, etc.

Like train wagons – family, teachers, economists, religious leaders, journalists, soccer players, artists, scholars, as well as bureaucrats from several fields – that reproduce the idea that young workers must attend vocational schooling as means to ensure a more "dignified" way of life than that of their parents.

The complex of education has long been a bourgeois element for preserving order, civility, citizenship, and the meritocratic discourse that fuels the superficial marketing frenzy of human existence, meanwhile exploitation reaches dimensions of Apocalyptic dimensions that not even the most abstracts of fictional dreams would be able to overcome. The social horror we live in the 21st century is harder still than end-of-the-world fiction. Barbarism is real, but not all see it. (Belmino, 2020, p. 23).

The official documents express confusion regarding schooling and vocational schooling in Brazil. In the governmental manuscript, vocational schooling can either be initial or continued, at the technical level or articulated with secondary education. Therefore, vocational schooling can be conceived as technological and articulated with higher education.

In addition to the hierarchical division between technical and technological – the former is inferior to the latter, since it articulates with secondary education whereas the latter to higher education – the TPESE is completely split and offered to students as an educational buffet. Article 3 in the National Curricular Guidelines states that "Technical Vocational Schooling in Secondary Education is developed in the 'articulated' and 'subsequential' formats, and the former may be 'integrated' or 'parallel' to that stage of primary education" (Resolução nº 6, 2012, p. 1, our highlight)<sup>5</sup>. It is noteworthy that the 'good for all' education, in which students are able to choose what 'best' suits them, is dominated in the subsequential format by the private sector (Santos, 2017).

The State, in the role of protector of the higher classes, seeks, in the education provided to the working class, for ways to contain the crisis affecting contemporary capitalism. The goal is to conform the working-class education to the demands of capital be it peripheral or central.

Therefore, pushed by the needs of the very object, it is necessary to approach albeit briefly the factors determining the organizational structure of schools. That is justified in the fact that social reproduction did not demand from education a close relationship with economy in the means of production that precede capitalism. But capitalism has created the need for connection, mediated as it is, between the working class and the production of materiality, since prior to it, neither slaves or servants needed 'vocational' schooling.

Education and work have a relationship of ontological dependence and relative autonomy with one another. Due to the need of educating the labor force for the industrial capitalist production, the bourgeoisie state by force of capitalist means of production divides school into two sections. Hence what is known as vocational schooling became severed from propaedeutics schooling.

Although a certain enlargement of scientific knowledge has been promoted by capitalism, depending on the degree of specialization of the labor force, the actual goal of capitalist education is to prepare and to adapt a certain number of workers to specialized work but not less exploited.

<sup>5</sup> Discussing integral education, that is the combination of technical-vocational schooling to secondary education, is not the aim of the present article. The notion of integrated education in effect in Brazil since the 1970s independently from several social-historical and theoretical-vocational perspectives – with defenders from either left, right or center parties – mean to equalize the following: schooling and capitalist professionalization. Therefore, it is noteworthy the dispute between "progressive forces" against "conservative" ones, which, are updated through the decree nº 2.208/97 and the device that allegedly revokes it: the decree nº 5.154/04. Despite the dispute of groups that fight for a particular type of integration between fundamental education and vocational schooling, pompously named Professional and Technological Education, research has shown the frailties of what has been attempted in Brazil, even by the so-called "progressive left". Santos (2017, 2019a), for example, has updated the debated on the issue.

The manipulation of specific curricula for vocational schooling is used to train workers who, at once, are professionally specialized to meet the demands of capitalist production but accept their status without much questioning.

Leading the present analysis toward the relationship between professionalization, on the one hand, and the role played by schools to specialize workers on the other hand, it becomes possible to distinguish what contemporary educational policies stand for, specifically the one in effect in Brazil. From that understanding, the radical discursive contradiction of educational documents in Brazil, which attempt to preserve the mask of universality of integral education, while seeking success in the adaptation and readaptation of the labor force to the impositions of capital.

Brazilian educational politics abounds with categories that are ontologically incapable of objectivation in the process of bourgeoisie-capitalist school education. Especially in the context of the chronic crisis which has affected contemporary capitalism, it is impossible for any school to propose comprehensive education that aligns with the full development of human kind.

To demonstrate the ontological role of capitalist schools, we resort to the 'Global report on adult learning and education' (UNESCO, 2010, p. 12), that states clearly the demands of capitalism, that is: "[...]women and men to adapt and re-adapt throughout their lives – all the more so in the context of globalization"<sup>6</sup>.

Schools are left with no alternatives to educate the working class to adapt to economic changes but to seek the best way of adapting to new models of exploitation of labor force in favor of accumulation of capital in crisis. It is precisely at this point that the subject of professionalization must be approached under the light of ontomaterialist elements. That is, questioning what profession and professionalization mean in the framework of capitalist specialization. Hence, does the most specialized profession represent the best salary or the most prestigious employment?

That question demands understanding professionalization and schooling, since the latter aims to educate workers for precarious specializations, rather, adapted to poverty.

## Professionalization: a few remarks

Albeit briefly, in the following section, the article concentrates on the dialogue between professionalization and specialization. The argument starts with a quote by professor Maria Ligia Barbosa on the issue of professionalism and professionalization: "[...] from many perspectives, the process of professionalization is considered one of the most important and distinctive aspects of modern Western societies". But is vocational schooling, especially, in secondary education, capable of that accomplishment?

Professor Josué Silva (2017), from the Instituto Federal de Educação, Ciência e Tecnologia de Santa Catarina (IFSC) – *campus* São José –, answers the question rather quickly. He argues that "Brazilian vocational schooling" has been prejudiced since the ideal of "bachelor culture" lasts among students. He states that "[...] a majority of Integrated Technician Courses [at the institution where he works] have no interest in working secondary education-level technician jobs and choose to move onto higher education"(Silva, 2017, p. 285).

Given the complexity of the issue, as discussed by Mészáros (2002), it is best to suspect simple answers, such as the professor's. Should he have his own children, he would possibly wish to see them graduate from university rather than working some high-school technician level job. Hence, our refusal of his answer. Despite the seemingly effective answer to the issue, to which it belongs, the issue demands further analysis.

First, clarifying the concept of "profession" will provide the necessary conditions to understand the relation between schooling and professionalization.

Two authors are frequently cited in the studies on professions. Generally, research in the field of "sociology of professions" cite Claude Dubar (2005, 2012)<sup>7</sup> and/or Max Weber (1984) – among others – as sources for the issues of professions<sup>8</sup>.

According to the Frech sociologist, for example, the specific process of socialization builds the recognition of professionals. Professional identity are connected to that process through factors such as education, work and career (Dubar, 2005).

<sup>6</sup> To illustrate, expressions such as 'adapt' and 'readaptar' are used several times in the pages of the General National Curricular Guidelines for Fundamental Education (2013).

<sup>7</sup> There is a merit to be recognized in Dubar's work. Despite considered a fashionable sociologist in many studies, he was able to recognize the current crisis within society. In a lecture given at the *Espace Culture de l'Université de Lille* on March 31<sup>st</sup>, 2010, Dubar (2011) stated that identities suffer from a specific crisis, which is neither structural nor cyclical. While not excluding the former and considering the latter, the crisis of identities that is taking hold in the social fabric, he argues, is anthropological. The title of the lecture illustrates his argument well: "Between global crisis and ordinary crises." For the author, this is where the crisis of identities lies (Dubar, 2011). The main thesis of the French sociologist is presented here because his understanding of professions is intertwined with what he determines as the crisis of identities. Although it does not exclude the effects of the structural crisis of capital, it does not come from a reflection of the economy.

<sup>8</sup> For instance: Angelin (2010), Gonçalves (2008) and Machado (1995).

Activities qualified as professionals, according to the researcher, “[...] produce works, be it art, crafts, sciences or any other activity that creates something from itself, or provide services (doctors, legal work, education) (Dubar, 2012, p. 354). According to the author “[...] occupations give “sense to one’s existence and organize social life” (Dubar, 2012, p. 354). Independently from classic occupations, trades or vocation “[...] these activities are not limited to economic trade of energy waste for salary, but hold a symbolic dimension in terms of accomplishment and social recognition” (Dubar, 2012, p. 354). Clearly, that researcher conceives professional symbolism as of utmost relevance for human life. Moreover, occupations “are source of professional identity” since they enable workers to “[...] change jobs along their lives, at the same time they ensure the continuity of careers” (Dubar, 2012, p. 354).

Despite the symbolic value, and despite the inadequate articulation of the dialectic relationship between international and technical division of labor and the ideological (symbolic) spheres derived from economy, since all symbolism must sustain a relationship of dialectic reciprocity with work, a founding stance of human life, the author acknowledges the distinction between qualifying for employment at the center of capital and at its periphery. For Dubar (2012), there has been a decrease in the number of less-qualified workers in industrial jobs in central countries. As automation advanced, many blue-collar jobs operated by repetitive movements were moved onto peripheral countries, which, due to the international and technical division of labor, offer precarious wages to occupations that are less-qualified, underqualified or unqualified.

In his study on neo-Weberian currents in the sociology of professions, Aldo Antonio Schmitz (2014, p. 13) highlights that the German sociologist fails to approach the notion of “profession” as synonym to vocation, as he draws “[...] an interpretative line structured upon the rationalization of modern Western society”. For the Brazilian scholar: “Weber rarely uses the term profession and when he does it is highlighted or between quotes, perhaps due to the little development of the concept at the time; he prefers professional and distinguishes these notions”. This is verified in Weber’s interest in differentiating the charismatic tradition of modern rationalization.

Indeed, as verified by Schmitz Weber (1984, p. 111), in § 24, defines “[...] profession means a peculiar specification, a specialization and coordination that shows services provided by one person, the foundation of a lasting possibility for their subsistence or profit.”. The German intellectual in his definition of professional, according to Schmitz (2014, p. 13), sees that individuals who concentrate in their activities “[...] technical qualifications, rational knowledge or instruction”. That author concludes that Weberian notions “[...] highlight training through specialization or qualification, the methodological individualism and the competence to obtain continuous or lasting income” (Schmitz, 2014, p. 13). That understanding corroborates with Weber’s intentions of proving, throughout his various works, that certain technical rationality is an unavoidable element in modern Western societies.

The study conducted by Schmitz (2014) shows a gap in the research belonging to the sociology of professions in Brazil. With few exceptions, the specificities of the discipline is incipient. One such exception, according to that author, are the investigations by Maria Lígia Barbosa (1998). The literature review she performed on the issue of professions shows that a group that provides society with a certain service establishes “[...] recognized, legitimized jurisdiction on their specific field”<sup>9</sup> (Barbosa, 1998, p. 131). The author claims that finding the right measure of professional knowledge is difficult.

Evidently, there are certain professions, such as physicians, lawyers, engineers, architects, among others, whose knowledge is determined by the use of the services provided. According to Barbosa (1998), doubtlessly, schooling remains a defining criteria of who is or is not professional. As she argues “[...] despite its reduced importance” (Barbosa, 1998, p. 138), a degree is the minimum requirement for certain positions. She adds that other criteria must be involved in the definition of profession.

Which criteria are used in relation to vocational schooling in secondary education is the key element to be recovered from the discussion proposed by Barbosa (1998). Higher education degree define who is professional: “There is not much doubt regarding the increasing dependence on professional knowledge in our society. Both the medicalization and the judicialization of social life are visible to the naked eye” (Barbosa, 1998, p. 139). In the first but last paragraph of her work, nonetheless, Barbosa (1998, p. 140) gives the following warning:

[...] the issue no longer means defining professions according to the substance of their activity or the legal form of the work, but, instead, verifying the social form to control work. In other words, how and to what extent certain

<sup>9</sup> Jurisdiction, for the author, implies autonomous control over the area in which the professional works. For Abbott, cited by Gonçalves (2008), the term jurisdiction relates to the link between a certain profession and the activity performed by it.

social groups can seal market niches and establish their working conditions. And how they hold some sort of power, modelling specific social relations.

The very word “profession” is controversial. Semantically, it derives from the Latin *profesione*. Plenty of research associates the word with professing, while others follow the notion of public confession, which grants the speaker the responsibility, from a particular standpoint, of giving opinion about a certain issue. From that contradictory and controversial notion, there is a line that connects with “occupation”, which demands professional qualification to be performed.

The works of Carlos Manuel Gonçalves (2008), in turn, argue that the lack of a clear distinction between profession and occupation jeopardizes the definition of the former. The Portuguese researcher states that “[...] there are various situations and statutes which makes it difficult to find a corresponding word to the English ‘profession’”. In Latin languages, unlike Anglo-Saxon languages, “[...] the word *profissão* is polysemic and far from well defined” (Gonçalves, 2008, p. 188) as it is in English. Hence the confusion surrounding the debate on professions.

To minimize that semantic difficulty, Gonçalves (2008, p. 188) resorts to the *Dicionário da Língua Portuguesa* published by the Academy of Sciences of Lisbon, in which “[...] the word *profissão* has various meanings”:

- Action or result of professing;
- Confession or public declaration of principles;
- Consecration to religious life;
- Paid activity an individual regularly performs in a service, in a company, and which demands a certain degree of education or specialization.
- Set of people with the same professional occupation.

After revisiting his understanding of the three main theses in the sociology of professions: functionalism, symbolic interactionism and professional power<sup>10</sup> and dialoguing with investigations of Andrew Delano Abbott, the author concludes that “[...] the new orientations for sociological investigations, both European and Anglo-Americans, admit an array of notions who share some features” (Gonçalves, 2008, p. 190). What features are those? “[...] reference to a scientific domain and corresponding scientific and technical knowledge achieved continued academic career, professional autonomy, identity and peer association” (Gonçalves, 2008, p. 190).

The sociologist Maria de Lurdes Rodrigues (2016) reaffirms the terminological difficulty that leads to imprecisions in the definition of profession. In her works, she states: “[...] the word profession designates a statistical category used in the population censuses” (Rodrigues, 2016, p. 36). In the European tradition, the word, in turn, “[...] may be equivalent to trade and name any occupation” (Rodrigues, 2016, p. 36). In the English tradition, professional is “[...] applied to highly-qualified workers which comprehends mostly workers with higher education degrees”<sup>11</sup> (Rodrigues, 2016, p. 36).

In analyzing the theses by the U.S. American researcher Harry Braverman, Rodrigues (2016) summarizes that scientific management detains knowledge on the production process, thus reducing the number of passive workers. This is how she interprets Braverman: “Reorganizing work into lower positions and no conceptual content, most workers depend on management, leading to work degradation and alienation” (Rodrigues, 2016, p. 74).

After debating the key elements to the present communication, the intentions of the article must be outlined clearly. In the next section, then, the reflections conducted thus far are articulated with the specific case of vocational schooling concerning the development of technique and technology.

## Notes on the articulation of technology, capitalist development and professionalization

Braverman’s (1980) reflection are welcome in the sense the application of technique and science to the productive process demands continued and ever more intense renovation of the industrial-technological process. Such process, motivated by transformative forces, has direct impact on the social fabric. It would be vulgar ingenuity to disregard the massive and unprecedented existence of technology in people’s daily lives.

<sup>10</sup> “The explanation of the phenomenon of professions from a functionalist perspective is on criteria of social legitimacy; from an interactionist perspective, it lies on the relationships of negotiation and conflict developed by occupations; now the explanations are extended to criteria related to power: the professional, economic, social and political power of the groups themselves” (Rodrigues, 2016, p. 47).

<sup>11</sup> “But in research developed within the framework of functionalist theories of professions, the term profession designates a concept – an ideal type of professions – constructed and justified by the real existence of professional associations, playing a role in the political sphere, with a specific ideology and codified rules of conduct” (Rodrigues, 2016, p. 36).



It is not possible to deny that human life is crossed by an expanding array of technologic mediators. Machines, devices, apps, equipment, countless technifications mediate human life and relations.

A blurred expression of the phenomenon is the apparent exclusive need for workers to seek qualification since the world is different. Braverman (1980) helps to unveil this superficial truth. From the researcher's perspective, it is possible to recognize that the most recent education for the working class rises from capitalism. The "workforce qualification" aims to train workers to adapt to the inevitable evolution of technology. As Braverman (1980) sees it, the very process of appreciation of capital benefits from the adaptation of the workforce to the evolution of the technologic devices used by capitalist industries.

The researcher's reasoning is that the interaction between technique and science becomes necessary to sustain and to develop the capitalist means of production. That dialectic interaction highlights the importance of scientific management of industrial-capitalist production. The incorporation of scientific management to within the production demands schooling of operators capable of meeting those specific demands.

Educational public policies, by having the ontological obligation of ensuring the perpetuation of capitalist profit, create documents in the sense of orienting schools towards the same goal. Official documents have no alternative but to resignify the role of education for the working class. Good example of that resignifying lies in the report 29/2002 by the National Council for Education which discusses the national curricular guidelines for technological degrees – updated recently. The document, sponsored by "well-intended scholars" states that "[...] technology despite successful is mostly imported. That is perhaps the reason of the current crisis in our industry and in the its need for international competitiveness" (Parecer CNE/CP n° 29, 2002, p. 25-26). According to Quartiero et al. (2010), educational documents have two different approaches towards technology. One seems to be preferred by national documents embraces the so-called technological era with acritical optimism.

Spontaneous materialism, systematically interpreted by Marx (1996, p. 309), knows well that "[...] the road to hell is paved with good intentions". By making technology a transcendental force that acts upon humankind dissociated from human creation allows technique to enter schools through the doors of idealistic irrationalism. As documented by (2017, p. 150-151, author's highlights):

It is not possible to understand the relation between technique and technology with the educational system, in particular with vocational schooling, without the proper understanding of the complex net of mediations that makes Brazil visible in the so-called globalized world. Indeed, due to their lack of theoretical-methodological principles to guide proper historical analysis of reality, the ones behind those educational texts believe technological development to be a central determination of human sociability. Therefore, they are incapable of explaining the development of science and technology in their dialectic relation with human needs, connected to the complex of work through a web of mediations; thus, they are left with this apologetically short-sighed post-modern jingoist belief of existence of a "technological era".

In Santos (2017) we find the debate on the ambivalence assumed by the concept of technology, particularly, after World War II. Based upon the works of Vieira Pinto (2008), the researcher analyzes how technique and critical thinking (technology) are transplanted into educational reformulations, in particular, the ones pertaining to vocational schooling.

Based on the synthesis Santos (2017) has presented on Viera Pinto's study on the concept of technology, the present article summarizes the debate on that ambivalence. To address the current aims of this article, it is argued that we are living in a so-called technological era, but in a technocratic society, despite greater freedom of movement. As summarized in Santos (2017, p. 92):

The ideology of a backward elite whose short-sightedness subjugates subserviently the educational process to sponsor their greedy fantasies of profiting from collective misery leads the retrograde bourgeois in Brazil to bet their good chips on a trade-specific education as the main road to ensure economic development, nowadays, believed to be sustainable. For the local elite, education is a business like any other, selling manure, animal feed, milk or teaching, what matters for our backward entrepreneurs is the profit generated by the product.

According to Vieira Pinto (2008), technique and the sphere in which it must be questioned, technology, cannot be dissociated from human action upon nature and society. That means that technique on its own is not capable of dominating men and women, since there is no suspended technique of human activity, therefore, independent from work. Humanity, as a matter of fact, executes certain actions that is granted by men and women technical quality. Technology cannot exist outside human action as it is always subordinated to the interests of humankind, hence, there cannot be subordination of men and women to technology.

According to that researcher, technique and technology can never be completely independent from the power of human labor. Believing those categories can exist on their own, then, constitutes mere theoretical illusion. That sort of idealistic mysticism can only exist under the wings of irrationalism resignified “[...] from the literary fiction of terrorist thinkers” (Vieira Pinto, 2008, p. 158).

The fact that the notorious “technological era” is a product of well-intended intellectuals of the State or even its contrary derived from ingenuous interpretations does not change the basic facts, that is, it disregards

[...] the relation of ontological dependencies, dialectic reciprocity and relative autonomy of technology and work prevents the proper understanding of the issue. Therefore, investigations have been limited to utterances that indicate some sort of determinism, of pessimism in the control of humanity over its materiality, or of ingenuous optimism, much appropriated to the fantasies of post-modern thought. Indeed, such analyses end up presenting formulations that are well-adapted to the contemporary in chronic crisis capital, which applauds, through its research funding, often public, all the panacea surrounding universities with the charming denomination of “applied technological research” (Santos, 2017, p. 153, author’s highlights).

Even if one fantasizes technology as source of wealth for the entire world population, thus allowing to feed that population with dignity; or, reactionarily, that technology is the source of all evil, as Mészáros (2002) argues, capitalist industries in crisis use technology to promote, on the one hand, scarcity and, on the other hand, to enable a certain creativity to increase the mass consumption of industrial products marked by waste and programmed obsolescence:

Conceiving other forms of science and technology nowadays means replacing them in the imagination with an existing form that, actually, would have to (and could only) be created in the framework of a sociometabolic socialist order – for that to sustain, in an absolutely fallacious way, that the positive forces of that science and that technology are available and could easily build here and now the productive basis of a socialist order of reproduction (Mészáros, 2002, p. 266).

The present article based on the studies of Vieira Pinto (2008) presented by Santos (2017, p. 153) stands in opposition to the: “[...] defenders of technology ambivalence”. Technology “[...] does not hold the spark of good or evil in itself” (Santos, 2017, p. 154). It is only “[...] possible to study technique by placing it in its *locus*: technology” (Santos, 2017, p. 154). Finally, the use of technology must be searched, essentially, “[...] in the application of possibilities that the modern machinery puts at the service of capital: ensuring profit accumulation for a privileged part of the world population” (Santos, 2017, p. 154), with rather destructive effects to the environment.

The need to question the ambivalence of technique and technology by setting them in their onto-historical place demands the necessary demystification of technique associated to vocational schooling, since they are called “technical” degrees, in articulation with secondary education be it parallel or subsequential. Along with Santos (2017, 2019b), the authors of this article refuse such courses as vocational. That is just resignifying! The current capitalist school even in its vocational version is prevented from training workers of the technical level. As summarized by Santos (2019b), the educational systems that add to secondary school what once was an educational modality do not deserve the label of “technical courses”. They offer the working classes – not coincidentally but due to the articulation of classist interests – the absolute minimum to feed the employment/underemployment/unemployment capitalist market.

What is noted is that vocational schooling, in general and at the limit of contradictions, is satisfied with the fact that former students have learned to read, write, count and push mechatronic buttons (Santos, 2017).

Following the arguments, these arrangements cannot be denominated technical courses. To train technical-professional, students would have to receive minimum knowledge on the natural subject and its interaction with society, since, as demonstrated by Vieira Pinto (2008, p. 137), technique cannot be lowered to experience; the former is superior to the latter “[...] as it allows individuals to know why, whereas the experience[...]” can only indicate what the object is.

Based on the classics of Marxism, it is clear that there is much more to be offered than what a bourgeois proposal for school education states, so, under the responsibility of modest knowledge, one cannot be reduced into accepting this handout in the form of ‘compensatory mercy.’ Likewise, this must be explained, as much as possible, to the population. We do not want to just tighten the screw, but also to understand the mechanics, the chemistry, and its immanent state, the process by which its raw materials were extracted, under what circumstances, etc. To grasp the relationships that brought it to the factory now and that will lead it to someone’s private car. We want practice and theory combined with the delight of spiritual fantasy: doing, thinking, creating, dreaming... We want all workers and their children to have control over our work and the product of it (Silva; Santos, 2020, p. 74-75, author’s highlights).

Due to the same reasons, it is not adequate to label “technological education” the fashionable technological majors, acritically denominated “higher degrees in technology”. That may be just another fantasy of intellectual irrationalism of the state interpreters, who are either ingenuous and/or ill/well-intended in their efforts to resignify what is left of vocational schooling now transplanted into higher education.

To summarize, on an ontological level, “technical degrees” the celebrated arrangements of vocational schooling added to secondary education should not be addressed as such, neither should, on that same level, the acritical denomination of higher degrees in technology be assigned to the quick fragmentation and fetishization of higher education degrees aimed at the working class. Educational blending of professional modalities with teaching levels without ontocritical critique does not ensure technical education. On the contrary, it aggravates the reification of vocational schooling without ensuring the notorious employability (Santos, 2017, 2019b).

## Final remarks

Given the constraints of this article, important elements for the subject under scrutiny were not approached such as the notions of trade, occupation, vocation, qualification, disqualification, certification, competence among other points that dialogue with the role schools play in professional education. In the guise of an inconclusive closure, it is highlighted that, without the foundation provided by the materialist ontomethodology, this manuscript would not have been possible. In other words, providing the adequate framework for an issue, such as the relationship between schooling and professionalization, is only possible by the revolutionary perspective of Marx and Engels’s work recovered ontologically by Lukács (2018).

A few concluding remarks are necessary on the ontomethodological approach of that issue. After the short debate on some of the most serious limitations of vocation schooling, let us resume reflections on the concept of average qualification made by Harry Braverman (1980). Articulating the limits of the bourgeoisie education provided to young workers with the notion of average qualification approximates our discussion of its final remarks.

The U.S. American author cited above claims that the increase in the average qualification of workers benefits capitalism, since the capitalist production means to incorporate technological development to production. As it unavoidably happens, there is a direct demand by capitalist factories for qualification or requalification of labor force. If qualification is implemented, production improves. If such qualification is not implemented, the capital appreciation process is compromised in either absolute or relative terms.

To explain how the lack of qualification of the labor force jeopardizes capitalism, Braverman (1980, p. 360) states that “[...]workers do not benefit from the fact that their gradual loss of control over the work process is more than compensated by the increasing control on the part of managers and engineers”. Transferring control from the working class to scientific management means that not only “[...] qualification decreases in an absolute sense (as they lose their trade and the traditional skills without acquiring new abilities adequate to compensate the loss) it decreases even more in a relative sense” (Braverman, 1980, p. 360).

According to Braverman (1980), prolonged schooling and increase in qualification favors the needs of capitalism so much so that capitalism structures an entire set of public policies to direct resources from the State to schools. Despite the entrepreneurial struggle to manage public funding, either through private management of resources or through corruption, the content of education, in general terms, has been neglected along with the extended schooling time. This, as documented by Santos (2017, p. 226), enables employers to use degrees “[...] as a sieve to choose the most adequate candidate for strategic jobs in the hierarchy of capitalist accumulation”.

The time spent in school may reduce the time spent on producing certain goods, workers face the objective need of selling their workforce, and expose the “[...] weakness from the beginning of the relationship between workers and capitalists”, that is, “[...] competition between individual workers has not undergone significant changes in terms of superficial reduction [in work time]” (Lukács, 2018, p. 636, author’s highlights). These superficial reductions convey “[...] a system of reification in the social mind” of workers (Lukács, 2018, p. 636). That process starts with the social role in that for workers to be successful ought to “[...]learn to perform willingly, until that ‘image’ is formed in the competitive struggle, until there is prestige in consumption, both of which equally sprang from those sources, these tendencies are enough and disfigure one’s entire life, including their free time” (Lukács, 2018, p. 636, author’s highlights).

The aim of the severe crisis of capital is to provide an education that ensures workers access to skills that are basic to enter the productive device. Given the extreme concentration of technical-scientific knowledge “[...] on the hands of management and their teams[...]” (Braverman, 1980, p. 375), it is not in the interest of capital to educate workers to access the skills preserved by the scientific-technological *dynamis* (δυναμς). In the context of capitalist production, a narrow-minded education is sufficient to meet the narrow-minded needs of capital, which means the basic skills of reading, writing, counting and mechanically pushing buttons/turning screws. Buttons and screws, it must be added, are generally produced in countries of central capitalism.

This disheartening educational model leads to the current approach to vocational schooling which is delivered to the working class based on a process of resignifying its narrow-mindedness: “[...] specific skills, limited and repetitive operations and speed as qualification” (Braverman, 1980, p. 375). Unfortunately, the more workers demand knowledge to best compete in a world that quickly adds technology to daily life, less knowledge is available by the capitalist schooling: “[...] schools attended by the children of the working class the more there is to learn, the less motivated teachers are to teach and students to learn” (Braverman, 1980, p. 372).

The researcher’s remarks, based on the work of sociologist Wilbert Moore, articulates the issue of professionalization with schooling. According to Braverman (1980, p. 73, author’s highlights): “[...] society’s division into branches, trades and jobs ‘cannot contrast’ with the dispersion of those occupations that do not distinguish ‘species’[...]”; for example, the shepherd, the carpenter and the smith against “[...] the repetitive turning of screws a million times a day or moving thousands of cards weekly for a whole life of work since they are all expressions of the ‘division of labor’”.

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