

## CONCEPTS FOR THINKING ABOUT PROFESSIONAL AND TECHNOLOGICAL EDUCATION

J. G. PEDROSA\*, M.I.R.C. VIANA

Centro Federal de Educação Tecnológica de Minas Gerais (CEFET-MG)

ORCID ID: <https://orcid.org/0000-0002-8295-8313>\*

[jgpedrosa@uol.com.br](mailto:jgpedrosa@uol.com.br)\*

Submitted December 15, 2022 - Accepted September 5, 2023

DOI: 10.15628/holos.2023.14537

### ABSTRACT

The theme addressed in this text is education for work and its nuances with professional, technical and technological education in Brazil. In an essay style, this paper departs from the meaning of work in human life and situates education as an attitude or practice that arises from work achievements. The main purpose is to explore differences and connections between education for work and professional, technical and technological education. Along the way, references are made to the

history of education for work in Brazil and professional education. The sequence of the text contemplates dialogues with classical thinkers such as Marx, Engels and Marcuse and also weaves connections between ideas of Brazilian authors who worked in professional education throughout the 20th century or of authors whose elaborations emphasized the importance of the insertion of manual activities within the Brazilian school, to make it more interesting, lively and engaging.

KEYWORDS: Work, Education, Education for work, Technical and Technological Professional Education.

## CONCEITOS PARA PENSAR A EDUCAÇÃO PROFISSIONAL E TECNOLÓGICA

### RESUMO

O tema abordado no texto é a educação para o trabalho e suas nuances com a educação profissional, técnica e tecnológica no Brasil. Num estilo ensaístico, o escrito parte do significado do trabalho na vida humana e situa a educação como uma atitude ou prática que surge das conquistas do trabalho. Finalidade principal é explorar diferenças e conexões entre educação para o trabalho e educação profissional, técnica e tecnológica. No percurso são feitas referências à história da educação para o

trabalho no Brasil, assim como da educação profissional. A sequência do texto contempla diálogos com pensadores clássicos como Marx, Engels e Marcuse e também tece nexos entre ideias de autores brasileiros que atuaram na educação profissional ao longo do século XX ou de autores cujas elaborações enfatizavam a importância da inserção das atividades manuais dentro da escola brasileira, de modo a torná-la mais interessante, viva e envolvente.

**Palavras chave:** Trabalho, Educação, Educação para o trabalho, Educação Profissional Técnica e Tecnológica.

## 1 INTRODUÇÃO

The background of this text is education for work and, even more, professional, technical and technological education in Brazil. This paper arises from elaborations carried out for a dialogue about objects, sources and problems related to professional and technological education in Brazil. This genesis gives the text a greater proximity to an essay than a scientific article. In the sense defined by Adorno (1994, p. 168), the essay as a form is equivalent to an occasion to risk thoughts: “it stops when it feels finished rather than when there is nothing to say.” In this sense, an essay is like an opportunity to get excited about what others have already done.

Because of this essayistic nature, this paper is not the result of any specific empiricism. Nor is it a theoretical approach or a bibliographic review. This writing is not specifically any of these modalities, but at the same time contains elements of each of them. The point of reflection here is the relationship between work and education. One of the arguments presented refers to the social need for education for work since there is no innate human predisposition for labor. The argument defended is that this preparation for work includes different dimensions. One of these dimensions is the creation of a subjectivity accustomed to working. It is, in this dimension, the formation of a moral or even work ethic. Another dimension of this preparation for work is of a technical or practical nature and aims at training the individual to occupy a function in the technical division of labor. The first one is called here education for work, the second one is called professional education. In Brazil, this distinction between education for work and professional education can be discussed through “the pedagogy of manual work” introduced by Lourenço Filho (1952) and other proponents of the New School Movement.

Every writer has a receiver: not always real, not always ideal, and not always virtual. Here, the receiver of the reflection or the virtual interlocutor was and is both real and ideal. The general and initial draft was made for a seminar. On these occasions, we come across specialists and students, especially graduate students who are still involved in preparing their research projects. However, the actual component of the receiver of the writing is always a surprise. This is one of the uncertainties of those who expose, publish, and communicate their ideas. One never knows for sure who the other will be, the interlocutor, and what he wants to know. Those who expose their ideas are often conditioned to invent a receiver or to idealize an interlocutor. In this case, the ideal receiver is a beginner in scientific research in search of inspiration to carry out their studies, initially exploratory, and begin to define their research objects. Specifically, the receiver is someone in search of a minimal understanding of what professional, technical and technological education is and how it presents itself as a possibility for research.

This writing makes a spiral movement that starts from the meaning of work in human life, highlighting two moments: work as a fact resulting from the need for survival and work as a conscious act. The idea is to characterize work as a conscious activity driven by causality and purpose. Causality, in the terms put by Marx and Engels, is a necessity. However, the teleological component of work is freedom. In other words, the idea is to situate the passage from a necessity to freedom as a result of the achievements of work. A demonstration of this passage, as well as one

of the already present consciousness, occurs when the producer starts to produce tools to work less and enjoy more. The second movement situates education as an achievement of work or as a human attitude that results from the achievements of work. One of the purposes of this writing is to explore the differences between education for work and professional, technical and technological education. Along the way, references are made to the history of education for work in Brazil, as well as professional education.

In a latent way, this writing seeks to place professional, technical and technological education as a locus for research: perhaps not yet as a field or a subfield of science, but as a fruitful object field, a target for both individual and group initiatives, but of a movement that has grown. Also latently, the goal is to point out that professional, technical and technological education has singularities that call for research.

Due to the assumed style, this writing is not anchored in a circumscribed theoretical or methodological framework. Throughout the exposition, the argument goes through some classics such as Karl Marx, Friedrich Engels and Herbert Marcuse. In addition, this writing also seeks to weave connections between ideas from Brazilian authors who worked in professional education throughout the 20th century or from authors whose elaborations emphasized the importance of manual activities within the Brazilian school, to make it more interesting, alive and engaging.

## 2 WORK, ITS ACHIEVEMENTS AND EDUCATION

In Brazil, the history of professional education allows us to see nuances between education for work, professional education, technical education and technological education. These differences are stamped in the very sequence of names of public educational institutions throughout the 20th century. It also allows us to see significant teleological and axiological differences between training for work and training for the job market or between the notions of the world of work and the job market.

Education for work is a term referring to a more generic and more remote human act than professional education. As there is no natural human predisposition to work, it depends on training, it depends on learning.

In Karl Marx's writings, both in "Manuscritos Econômico-filosóficos" (Marx, 1987), in "Ideologia Alemã" (Marx and Engels, 2001) and in "Crítica da Economia Política" (Marx, 1982) and also in Engels's works, as in "Humanização do macaco pelo trabalho" (Engels, 1991), the labor process consists of three moments determined by nature: the transforming activity, the transformed matter and the means of this transformation. In 1844 "Manuscritos", Marx states: "Man is directly a natural being. As a natural being, and as a living natural being, he is on the one hand equipped with natural powers, with vital powers, he is an active natural being ..." (Marx, 1987, p. 206). Thus, in the labor process, activity is what mobilizes natural forces: the arms, legs, head and hands: "which the worker sets in motion, in order to 'appropriate the natural material in a usable

form for his own life”<sup>1</sup> (Duarte, 1993, p.48). The same happens with the matter on which one works: “The worker can create nothing without *nature*, without the *sensuous external world*. It is the material on which his labor is realized, in which it is active, from which, and by means of which it produces.” (Marx, 2001, p.112). The condition of the work instruments is also identical: the simple tools, then the complex tools, the machinery and then the diversity of energy resources to move the machines, everything comes from nature: “Technology is defined in 'O Capital' as the revelation of the active relationship between man and nature” (Duarte, 1993, p.51). Thus, labor is the meeting of nature with nature itself: of the internal nature of each particular member of humanity with the external nature common to all. Here is the meaning of this relationship:

... as a natural, corporeal, sensuous, objective being, he is a suffering, conditioned, and limited being, like animals and plants. The object of his drives exist outside himself as objects independent of him, yet they are objects of his needs, essential objects which are indispensable to the exercise and confirmation of his faculties. (Marx, 1987, p. 206).

When working, man transforms nature into products that satisfy life’s needs. As Marx would say, “stomach or fancy” needs.

When man engages in production, he can only proceed as nature does herself, i.e. he can only change the form of the materials. Furthermore, even in this work of modification, he is constantly helped by natural forces. Labour is therefore not the only source of material wealth[...] labor is the father of material wealth, the earth is its mother. (Marx, 1982, p.50).

This idea also appears when Marx defines the concept of product, that is, the result of work, what is aimed at by work:

In the labor process, therefore, man’s activity, with the help of the instruments of labor, effects an alteration, designed from the commencement, in the material worked upon. The process disappears in the product, the latter is a use-value, Nature’s material adapted by a change of form to the wants of man. (Marx, 1982, p.205).

That is why from the Marxian perspective: “...The entire so-called history of the world is nothing but the creation of man through human labor” (Marx, 1987, p. 181). But man, states Marx:

But man is not merely a natural being: he is a human natural being. That is to say, he is a being for himself. Therefore he is a species-being and has to confirm and manifest himself as such both in his being and in his knowing. [...] And as everything natural has to come into being, man too has his act of origin – history [...] as an act of origin it is a conscious self-transcending act of origin. (Marx, 1987, p. 207).

---

<sup>1</sup> In the section with double quotes, Duarte quotes Marx.

Engels (1991) states that it is in this “change of form” that man is formed because man's labor transforms not only external nature but also man himself. This is how “our furry predecessors become humanized”: first the hands, then the larynx, the brain and, finally, work adds sociability to man. It is from this relationship between man and nature that Engels thinks about the very existence of man: labor, much more than all existing material wealth, was a source of humanization. This is how Engels reveals the relationship between humanization and the domination of nature:

...the animal merely uses external nature, and brings about changes in it simply by his presence; man by his changes makes it serve his ends, masters it. This is the final, essential distinction between man and other animals, and once again it is labor that brings about this distinction. (Engels, 1991, p.223).

Like everything in humans, the fact precedes the act or, in the expression of the Hegelian dialectic: “The owl of Minerva only flies at dusk”. First history, then philosophy. Practice first, then thought: only then does praxis become possible. A fact is an unconscious act, but it is a fact. The act is the awareness of the fact and the return to it as act. Historically, work as a fact precedes work as an act. However, work in the strict sense only occurs as an act, that is, as something that is not contingent or moved only by necessity, but as a conscious activity directed towards a purpose.

Engels (1991), in his dialectics of nature, summarizes this passage from work as a fact to work as an act. The demonstration that the act is conscious occurs with the creation of the first working tool. Tools are created to make work easier: saving time, saving human energy and obtaining better products aimed at satisfying needs and fantasies. Work is a conscious activity and this consciousness is expressed in the telos of the activity: “conscious life activity distinguishes man immediately from animal life activity” (Marx, 2001, p.116-117). Work achievements mark the passage of human life from the world of necessity to the world of freedom. It is in the condition of freedom that the *hominization* processes occur. In this sense, education is an act of freedom that becomes possible through the achievements of work. It is through education that man sculpts himself. Education is the domain of aesthetics. It is through education that the man recreates the man. This is a fundamental difference between man and animals. “Men and animals [...] consolidate their species by natural procreation. But men can transmit their social and intellectual nature only by exercising the qualities through which they created it, [...] through reason and conscious will”. (Jaeger, 1995, p. 3).

In this sense, since man has worked, the act is passed on from one generation to another. In addition to products, work generates techniques, including skills and instruments, that is, ways and means of producing. Education for work can be understood, in its first sense, as a result of achievements at work. It is as if education for work was like the “owl of Minerva” of work. There are no differences between education for work and work education.

The human inclination towards education, on the other hand, presupposes development and conquests, presupposes that certain issues related to survival have already been solved. Education presupposes overcoming the realm of necessity through work and, therefore, is a practice of freedom. That is why the idea of educating men is late. Jaeger (1995, p. 23) states that “education

is such a natural and universal function of society, that [...] it takes a long time to reach the full consciousness of those who receive and practice it...". As in work, education as a fact precedes education as a conscious act. That is why "every people that reaches a certain level of development feels naturally inclined to the practice of education." (Jaeger, 1995, p. 3).

What proves this is the "relatively late" appearance of the first vestiges of education in the literary tradition. Education only becomes a subject on the human agenda in ancient Greece, in the Athenian polis of Socrates, Plato and Aristotle.

Education is a practice through which humans reinvent themselves. Through education man becomes a project of himself, he does it according to his reason. From education, human development means a "free game that other living beings need". (Jaeger, 1995, p. 3). This is the difference between men and animals: self-management, self-control, freedom, autonomy. The aim of education is to improve human existence or to obtain better forms of human existence. This allows us to think that the reduction of education to abstract labor, to the market or to the economy is a typical aberration of mercantile societies: a clear expression of a damaged life.

### 3 WORK EDUCATION OR EDUCATION FOR WORK

Education for work does not necessarily mean the teaching of techniques or crafts. Education for work can also mean the formation of values related to work: the formation of a work morality, of a work culture. In the history of education for work in Brazil, morality precedes technique. Only from the 1940s onwards, especially from 1942, with the creation of *Serviço Nacional de Aprendizagem Industrial* (Senai) and technical schools, that technique and economics began to occupy more space than work morality and philanthropy in institutions of education for work. With this moral connotation, education for work can happen in the family, in the church, at school, in the city and in the company. It has the meaning of forming a work psyche, a work mentality. That is, to form in humans a predisposition to work or a subjectivity accustomed to working.

An example of this education for work is the sermons in Calvinist and Lutheran churches that link work to a vocation act, in which results express a divine grace. Max Weber (1992) researched this issue and among the considered sources were the texts on priestly practice by the English Puritan leader Richard Baxter (1615-1691). Weber's justification is that Baxter "[...]stands out [...], both because of his eminently practical and realistic attitude and, at the same time, because of the universal recognition accorded to his works, which have gone through many new editions and translations" (p. 110). That is, it is through Baxter's texts that the dogmas of Protestantism became common sense and penetrated the daily life of Reformed Christians to become a way of life.

In a very synthetic way, what Weber seeks in Baxter's preaching is the relationship between vocation, work and the acquisition of material wealth. Material wealth, according to Baxter, "[...] is a great danger; its temptations never end, and its pursuit is not only senseless [...], but it is morally suspect." (Weber, 1992, p. 111). However, "the real moral objection is to relaxation in the security of possession, the enjoyment of wealth with the consequence of idleness and the temptations of



the flesh, above all of distraction from the pursuit of a righteous life.” (Weber, 1992, p. 112). In other words, “[...] it is only because possession involves this danger of relaxation that it is objectionable at all” since “[...] everlasting rest is in the next world[...]”. In secular life, man, “to be certain of his state of grace”, must “do the works of him who sent him, as long as it is yet day.”(Weber, 1992, p. 111) From this results the fact that it is “[...]not leisure and enjoyment, but only the activity that serves to increase the glory of God[...].”(Weber, 1992, p. 112). This represents a significant reversal in the meaning of work, which gains value in itself and becomes a form of prayer: “[...] every hour lost is lost to labor for the glory of God.”(Weber, 1992, p. 112). Because of this secular work is equivalent to prayer: “[...] inactive contemplation when it results in damage to daily work, [...] is less pleasing to God than the active performance of His will in a calling.” (Weber, 1992, p. 112). On this, Pastor Baxter did not hesitate in his preaching: “Along with a moderate vegetable diet and cold baths, the same prescription is given for all sexual temptations as is used against religious doubts and a sense of moral unworthiness: ‘Work hard in your calling.’” (Weber, 1992, p. 113). In Baxter's moral: “Unwillingness to work is symptomatic of the lack of grace.” (Weber, 1992, p. 113)

In the history of Brazilian education, the creation by the Federal Government in 1909 of the 19 Escolas de Aprendizizes Artífices characterizes a typical experience of transition or intersection between training for work and professional education. These schools were aimed at a very limited audience: orphaned and poor children, seen as potential delinquents. The stated purpose of these schools was to prevent a social threat arising from sluggish poverty, vagrancy and begging. The republican discourse associated professional education with an act of social assistance.

There is a direct connection between the nature of these educational institutions and the social division of labor in Brazil. In other words, the poor ones were assigned to schools for the poor, to keep poverty isolated. In the interior of the country, several local, religious and philanthropic institutions reproduced this purpose in precarious and subordinate professionalization practices. The training content was predominantly moral and disciplinary. The technique taught was related to manual and craft work. The purpose declared by law did not contemplate overcoming poverty, nor social or individual mobility. For all these reasons, this task or this experience was more of an education for work and less of a professional education. What gave these institutions a connotation of professional education was the schooling of work, which already appeared in the name: Escolas de Aprendizizes Artífices. Other than that, there was the architecture of the buildings, inspired by Jeremy Bentham's panoptic model (Silva, 2000). There was also the imitation of other school practices, such as schedule and disciplinary culture.

Another example of this education for work, which is not necessarily professional education, is the “pedagogy of manual work”, which circulated in Brazil from the 1920s onwards, through initiatives by Manoel Pena, Corinto da Fonseca, Lourenço Filho and Francisco Montojos.

This pedagogical focus on manual work appropriated by Brazilian educators had different reasons. One reason was the confrontation of the legacies of the slave culture in the social and technical division of labor, as well as in everyday relationships and in the folk imagination. “The ‘big house’, the habitat of the social superiority of the masters, fostered prejudice and antipathy towards manual work and technique.” (Pedrosa & Ramos, 2020). The end of slavery had already been

decreed, but the stigmas, stereotypes and caricatures of workers and manual labor insisted on remaining in culture and social representations. The problem is that this aversion to work was not compatible with the horizon of expectations of an industrial, urban and mass society, as configured in the thinking of industrialist engineers at the time, led by Roberto Simonsen (Pedrosa, 2021). It was therefore necessary to provide moral and technical education for work and this was one of the reasons for this pedagogy of manual work.

Another reason was the circulation of the ideals of the New School in Brazil. *Escolanovismo* was a renewal movement that emerged at the end of the 19th century as a result of dissatisfaction with the existing school (called traditional): the school of silence and attention, discipline and control, the panoptic and encyclopedic school, centered on teaching, in the teacher and confined to the classroom. This school renewal movement emerged in European countries and in the USA almost simultaneously and quickly reverberated in Brazil. In the US, the movement for the new school gained two important contributions: pragmatism and its emphasis on practice and experimental psychology and its focus on learning.

Corinto da Fonseca is one of the Brazilian intellectuals who endeavored to circulate this pedagogy of manual work in school environments. Fonseca published in 1929, with a preface by Lourenço Filho, a book entitled “A escola ativa e os trabalhos manuais”. In this book, Fonseca makes several references to Lourenço Filho and, in one of them, there is a meaning of manual work. Manual works are those in which you use your hands to transform different materials into objects and goods. It is not a matter of applying one's hands to carry out a task, but of “reaching the formation of the spirit through action”. (Lourenço Filho apud Fonseca, 1929, p. 6). Fonseca (1929, p. 7), inspired by pragmatic pedagogy, stressed that “[...] in its most modern concept, education is training for life and, since life is movement, dynamism, achievement, its intended effects can only be dynamic [...]”. Manual work would be the means capable of integrating educational practice with the practice and habit of performing. In the pedagogy of manual work, the work, that is, the pedagogically oriented manual activity, is a means and not necessarily an end. Educating through work implied bringing the workshop into the school as a way of animating it and making it more lively, interesting and engaging. Bringing work into school meant overcoming the limits of the classroom, silence and stillness, aiming at participation and movement. One of the incentives for this pedagogy of manual work was the discoveries that Psychology had already presented since the 19th century on childhood and learning.

It is also worth mentioning another initiative, carried out between 1968 and 1973, which characterized yet another interrupted attempt to bring work and the workshop into the Brazilian school. These are *Ginásios Polivalentes* (GPEs), a project that brought the workshop and manual activities to the interior of the school and to the pedagogical practices, to create in subjects from 7 to 14 years old, affinities and amenities with manual work.

The GPEs project was based on a vocational school model, which would offer general education with labor-related disciplines. It was vocational because it introduced the student to the world of work, without seeking a final professionalization and, at the same time, allowed for continuity of studies.



But the vocational bias was not a prerogative of specific disciplines and was also present in general disciplines. (Pedrosa, Bittencourt Junior, 2015, p. 15)

This GPEs project was carried out during the hardest period of the civil-military dictatorship implemented in Brazil after the 1964 coup that deposed President João Goulart and interrupted the implementation of a national developmental project elaborated within the scope of the *Instituto de Estudos Superiores Brasileiros* (ISEB), created in 1955 and linked to the Ministry of Education and Culture (MEC). In addition to this exceptional political context, the GPEs were a project of Anglo-American origin and formed one of the amendments to the agreement between MEC and the United States Agency for International Development (USAID).

Cordial relations between the USA and Brazil had already existed since the end of the 19th century with the republic and the republicans, but until the 1940s there were no formal agreements established. By the way, the first formal agreements between the US and Brazil in the educational field refer to professional education. This is the agreement between the Inter-American Education Foundation (IAEf) and the Ministry of Education and Health, signed in 1946, which had mixed funding and gave rise to *Comissão Brasileiro-Americana de Ensino Industrial* (CBAI). However, it was after the Alliance for Progress meeting in Punta del Este that the US, through USAID, intensified its presence in American countries, including Brazil. Cunha (2000) points out that it was the elaboration of the Ten-Year Education Plan that triggered in Latin America, the *Aliança Para o Progresso* (1961) and the *Declaração de Santiago do Chile* (1962), which aimed to promote the extension of compulsory schooling and the professional initiation for primary school graduates.

There was a close relationship between the GPEs project and the 1971 Lei de Diretrizes e Bases da Educação Nacional, which made compulsory that secondary education was technical. The GPEs project foresaw the construction of 300 school units in strategic places in the country so that they would function as prototypes of the new secondary school. However, both the obligation of professionalization in secondary education and the GPEs came to an early end. Like other educational policies in Brazil, they finished early. Admitting the failure of the experience, in 1982, the last president of the civil-military dictatorship sanctioned Law 7044, which abolished the obligation of professionalization. In the new law, the expression “qualification for work” was replaced by “preparation for work”. In practice, professional qualification would become optional for schools.

The GPEs were also discontinued after 1973, that is, they lost the connotation of an educational policy project and were integrated into the state school networks. One of the reasons was that there was a salary gap between the teacher in the public network and the teacher in the GPE network, which, over time, was leveled down. In addition, the lack of investment in materials for workshops and equipment maintenance was also decisive.

The idea of educating for work is broad and includes different dimensions. One of these dimensions, the most basic, has to do with the morality of work, the psyche of work, the formation of a subjectivity accustomed to working, with the representation of work as a virtue, vocation and

divine grace. In this sense, educating for work both results in and contributes to the formation of a positive attitude towards work. From the formative point of view, this positivization of work was not infrequently done in reverse, that is, by negation or by the discursive construction of a negative representation – full of stereotypes, stigmas and caricatures – of those who do not work: lazy people, loafers, miscreants, vagabonds, indigent, dangerous. These are aimless, sick beings. An example of this condition is Jeca Tatu, a character that Monteiro Lobato presented in *Urupês* (1994) as the synthesis of economic backwardness and social misery of the Brazilian people. Jeca Tatu was the image of a weak, discouraged, lazy, alcoholic, sick man: saved by a doctor. Immediately, in 1924, Lobato launched *Jeca Tatuzinho*, which aimed at teaching children the notions and habits of hygiene. It was hygiene time. Soon after, the caricatured image of the backward man was used in advertising for Foutoura Serpe & Cia's pharmaceutical products, especially Biotônico: the chemical against the worms of discouragement and laziness. The Brazilian legislation that instituted *Escolas de Aprendizes Artífices* in 1909, as well as other legal institutes in the states, reproduced this representation. Education for work aimed at preventing a threat to the peace of the elites.

In large part, education for work is a demand of modernity since the negative aspect of work prevailed from the beginning and was present in the ways of life and in the thought of different times. Chauí states that the relationship between work, suffering and degradation is present in several cultures and appears in “almost all the myths that narrate the origin of human societies as the effect of a crime to which punishment will be the need to work to live” (Chauí, 1999, p.11). Western civilization went through a long historical path until the meaning of work ceased to be related to torture, sacrifice and what was necessary for subsistence, to become the “fundamental condition of all human life” (Engels, 1991), a virtue, formative activity involved with ethics, that is, “a normative lifestyle” (Weber, 1992) or, as Durkheim (1995) would say, in the factor of “balance of complex societies”, a fundamental reference of organization of individual and collective life.

The 16th century, in the West, is marked by a break with these negative ways of understanding work in human life. The work, which until then only had value outside of itself, that is, only had relevance in its results – the products it creates – now has a value in itself. Examples of this positivization of work in modernity are its appearance in the philosophies of John Locke (1632-1704) and Adam Smith (1723-1790). Locke (1983) placed work as the *raison d'être* of private property. Smith (1984) put work, not trade, as the reason for the wealth of nations. Before that, Luther (1483-1546) had already promoted work as an individual vocation assigned by God.

If work is a distinctive feature of modernity, its positivization is an undertaking that was intensified by industrial capitalism in the 19th century. It is in 19th-century Europe that an intense effort is made to requisition and mobilization of the human being as a worker. It was in the 19th century that society began to configure itself as a gigantic productive machinery of which the human becomes a part. Veblen synthesized this process of adapting the human to the machine, which would be consolidated with the mechanization processes of the 20th century, typical of the Fordist factory:

The share of the operative workman in the machine industry is (typically) that of [...] an assistant, whose duty it is to keep pace with the machine process and to help out with workmanlike manipulation at points where the machine process engaged is incomplete. (Veblen apud Marcuse, 1999, p.78)

From this process – the machine process – occurs what Marx had already defined as the inversion of the relationship between creator and creature. In machine society or industrial society, the work of the workman “ supplements the machine process rather than makes use of it. On the contrary the machine process makes use of the workman”. (Veblen *apud* Marcuse, 1999, p.78).

The fact is that this process, which reduces humans to workers and nature to raw materials, requires intense effort, coercion, reward and the conquest of subjectivity. The intensity of constraint was first demonstrated by Marx in his interpretation of the formation of capitalism in England or so-called primitive accumulation. In Marx's historical synthesis (1982, p. 830) “The so-called primitive accumulation, therefore, is nothing else than the historical process of divorcing the producer from the means of production.” And the history of this expropriation whose purpose was to force man to sell himself, making him dispossessed of the means of production, “ was written in the annals of mankind in letters of blood and fire” (Marx, 1982, p. 830). In one of the many notes made by Marx there is a reference to Thomas More who states that in the period of Henry VII alone, 72,000 people were hanged. The result of this process is catastrophic for humans: “The advance of capitalist production develops a working class, which by education, tradition, habit looks upon the conditions of that mode of production as self-evident laws of Nature. ” (Marx, 1982, p. 854)

This statement made by Marx in the 19th century sounds like an insult to EPT in the 21st century. The purpose is increasingly the effort to enable a society of consumers without jobs and profitability without wages. Brazilian educational legislation no longer uses employment and employability words. The “new” references are the competence and capacity to undertake, that is, to get by to obtain income and not embezzle the consumer market. Economically the consumer becomes more important than the producer.

Gramsci (2001, p. 266), in the twentieth century, in his effort to understand the uniqueness of Americanism-Fordism, stated that this was “the greatest collective effort made so far to create with unprecedented speed and with an awareness of the objective never seen in history, a new type of worker and man.” Gramsci (2001, p. 273) identified in Fordism-Americanism a new coercion, founded on new bases and cunningly articulating “persuasion and consensus, [...] through greater retribution, which determines a certain standard of living, capable of maintaining and reintegrating the forces eroded by the new type of effort”. The novelty seen by Gramsci in Americanism-Fordism is that coercion ceased to be external to enter into the spirit of the new man: “...a new type of coercion, insofar as it is exercised by the elite of a class over its own class; it can only be a self-coercion, that is, a self-discipline.” (p.265)

Marcuse, who did not think with the same references as Gramsci but had the “same thing” to be thought of in common, that is, mass capitalism, defined the condition of individuality required by the apparatus with the terms “submissive competitive efficiency” and prevalence of

“technological rationality”. Individuality does not disappear but becomes a standardized efficiency. “The efficient individual is the one whose performance consists of an action only in so far as it is the adequate reaction to the objective demands of the apparatus”. Therefore, efficiency becomes a synonym of “performance rewarded and consummated only for its value to the apparatus”. This demands that the individual adapts without reservation: this is the requirement of technological rationality. The aforementioned “machine process” requires “consistent training in the mechanical apprehension of things” (Marcuse, 1999, p. 82). It is from this rewarded submission that self-discipline and self-control emanate. Those are typical of technological rationality: adapting is rational, criticizing and resisting is irrational.

Perhaps it is this technique and technology development process that makes it possible to think about the transition from professional education to technical education and from the latter to technological education.

In a much more specific way than the notion of education for work, the idea of professional education has to do with professional work, that is, with work as a way of life. Professional education has a direct connection with the occupational system, with abstract labor and access to income. This means more than the formation of a subjectivity accustomed to working because it is equivalent to the formation of skills aimed at inserting the individual into the technical division of labor.

In Brazil, *Diretrizes Curriculares Nacionais para a Educação Profissional Técnica de Nível Médio*, enacted in September 2012, used the expression Professional and Technological Education when defining the meaning and scope of its object. This heading would cover three types of courses.

First, there are the initial or continuing professional qualification courses. They are considered short-term qualification courses aimed at specific or seasonal demands of the business world. Several courses offered by Sistema S fit into this definition. Another example of a qualification course would be *Programa Nacional de Acesso ao Ensino Técnico e Emprego* (Pronatec), created by the federal government in 2011. An important aspect in defining these professional qualification courses is the lack of definition of its public. PRONATEC's public includes public high school students, students who have already completed high school, workers in general and beneficiaries of federal income transfer programs that existed at the time. The target audience for the qualification courses offered by Sistema S is similar in scope: young people applying for a job and looking for an income or the unemployed looking for reinsertion in the job market. Another particularity is the profile of the professionals who teach these courses. They are hired as instructors, not teachers. This means that the hiring criterion is the so-called well-known knowledge, not requiring higher education teacher training.

Secondly, there are the courses of *Educação Profissional Técnica de Nível Médio* (EPTNM). There are significant differences concerning professional qualification courses. One of these differences is that EPTNM belongs to the national education system, it is high school level and considered basic education. This results in the existence of national guidelines to offer the courses. These guidelines define the duration of the courses, curricular internship, teacher training. In addition, the operation of these courses depends on the authorization of competent institutions,

and they are evaluated periodically. Concerning teaching, the EPTNM guidelines of 2012 required higher education and a degree in the area.

Finally, the third typology would be *Educação Profissional Tecnológica*, covering undergraduate and graduate courses. It is interesting to note the status and hierarchy established by the 2012 guidelines and ratified in the 2021 guidelines. Professional qualification is not part of the national system and is not even considered basic education. Technical education is for a high school level and the technological one is for a higher education degree. It is also worth mentioning that in the two guidelines, 2012 and 2021, there is the possibility of so-called “intermediate exits”. In the case of EPTNM, the intermediate exit is equivalent to the technical professional qualification, in the case of higher education, the intermediate exit is equivalent to the technological professional qualification.

#### 4 CONSIDERAÇÕES FINAIS

The course taken by this writing does not necessarily lead to certain conclusions. Thus, it is less about concluding and more about summarizing.

As was mentioned in the introduction, the purpose of the writing was to reflect on work and education in human life. This reflection highlighted the primacy of work over education and also the difference between the acts of working and educating. In both cases, the difference between fact and act was also highlighted. Both work and education appear first as a fact. It is only when there is awareness of the fact that it becomes a conscious and lucid act. The objectification of this consciousness appears in the *telos* of both. In the case of work, this awareness is manifested in the manufacturing of tools, which aim to produce better and with less expenditure of time and human energy. It is work that removes life from penury and the realm of necessity, making the passage to freedom possible. What defines this freedom is the establishment of another relationship with nature, in which man differentiates himself. This does not mean the domination of nature, but the domination of the relationship. Based on this awareness, the man inserts himself into the world of culture.

The same happens with education: first the fact, then the act. Education, in the sense presented here, is not to be confused with socialization, nor enculturation, or with adaptation. All these practices are focused on real, on what exists: society, culture, or the environment. It's a relatively easy task. Education, as a conscious act, is a practice aimed at an ideal: of man, society, and culture. It is aimed at the formation of what does not exist yet. All education, in this sense, is necessarily utopian. It's a difficult task. It is a task that demands greater responsibility because this task is not just to confirm, develop or make something that is already given by nature blossom but to create, to form the human being that does not exist a priori.

As was mentioned throughout this paper, work is a fact imposed by the need for survival and, later, an act driven by a purpose. There is nothing innate about work. This means that the work has to be learned and assimilated. This is where education for work comes from, or the social need

for education for work, since there is no innate human predisposition for labor. What was emphasized is that this preparation for work includes different dimensions. One of these dimensions is the formation of a subjectivity accustomed to work or the formation of a moral or even a work ethic, something related to the positivization of work. Another dimension of this preparation for work is of a technical or practical nature and aims at training the individual to occupy a function in the technical division of labor. The first one is called here education for work, the second is professional education.

It does not mean that professional education is necessarily geared toward the labor market. The market, whatever it may be, is the locus of the logic of profit, competition and exclusion. The labor market is the locus of abstract labor, of a work that produces goods. The labor market is the locus of realization of surplus value, where exploitation returns to the exploiter in its liquid, monetary form. Thus, the labor market and the consumer market are different but inextricable: one does not exist without the other, one feeds off the other, one feeds the other, although in late capitalism the market needs consumers more than workers.

It would be different to think of an education focused on concrete labor or labor that produces utilities or products that satisfy human needs. In a broad sense, the world of work is the world of men and includes material and productive activities, as well as all processes of cultural creation that revolve around the reproduction of life. In this broad sense, the world of work is the world of culture. The problem is that in late capitalism, work was reduced to abstract labor and dominated by the logic of substitutability, disposability, superfluity.

And what is the use of this differentiation between the world of work and the labor market? It serves to show that in practice what prevails in professional, technical and technological education is the labor market. It also serves to show how narrow and treacherous this education is since it is guided by the labor market and not by and for the world of solidarity among men.

## REFERÊNCIAS

ADORNO, T. (1994) O ensaio como forma. In COHN, G. (Org.). *Theodor W. Adorno*. Ática. (Coleção Grandes Cientistas Sociais)

CHAUÍ, M. (1999). Introdução. In LAFARGUE, P. *O direito à preguiça*. Hucitec.

CUNHA, L.A. (2000). *O Ensino Profissional na Irradiação do Industrialismo*. Flacso.

DUARTE, R. (1993). *Mimeses e Racionalidade: a concepção de domínio da natureza em Theodor W. Adorno*. Loyola.

DURKHEIM, D. É. (1995). *Da divisão do trabalho social*. Martins Fontes.



- ENGELS, F. (1991) A importância do trabalho na humanização do macaco. In *A dialética da natureza*. Paz e Terra.
- FOLGADO, R.M ; MACHADO, L. ; ZIVIANI A.L.; TERZI, A. M. (2014) Interdisciplinaridade, Interculturalidade e intersetorialidade: Princípios e Aplicação no Programa Nacional de Acesso ao Ensino Técnico e Emprego (PRONATEC). *Holos*, Ano 30, Vol.4, p.438-449.
- FONSECA, C. D. (1929) *A escola ativa e os trabalhos manuais*. Melhoramento.
- GRAMSCI, A. (2001) Americanismo e fordismo. In GRAMSCI, A. *Cadernos do cárcere*. Civilização Brasileira.
- HESÍODO.(1996). *Os trabalhos e os dias*. Iluminuras.
- HOMERO.(1997). *Odisséia*. Scipione.
- HORKHEIMER, M.; ADORNO, T. (1985). *Dialética do esclarecimento: fragmentos filosóficos*. Jorge Zahar.
- JAEGER, W. (1994). *Paidéia: a formação do homem grego*. Martins Fontes.
- LIMA, E.R.S.; SILVA, F.N. , SILVA, L.L.S. (2017) Trajetória do Ensino Médio e da Educação Profissional no Brasil. *Holos*, Ano 33, Vol. 03, p. 164-175.
- LOBATO, M. (1994). *Urupês*. Brasiliense.
- LOCKE, J. (1983). *Carta acerca da tolerância; Segundo tratado sobre o governo; Ensaio acerca do entendimento humano*. (3. ed.). Abril Cultural. (Coleção Os Pensadores).
- LOURENÇO FILHO, M. B. (1952). *Psicologia dos trabalhos manuais*. Palestra realizada na Escola Técnica do Senai para os alunos do Curso de Artes Aplicadas. Acervo CPDOC / FGV – Centro de Pesquisa e Documentação de História Contemporânea do Brasil.
- MARCUSE, H. (1999). *Eros e Civilização: Uma interpretação filosófica do pensamento de Freud*. LTC.
- MARCUSE, H. (1999). *Tecnologia, guerra e fascismo*. Unesp.
- MARX, K. (1982). *O capital; Crítica da economia política*. (Livro 1. Vol. 2). Difel.
- MARX, K. (1987). *Manuscritos econômico-filosóficos*. Edições 70.
- MARX, K. (1988). Salário, Preço e Lucro. In Giannotti, J. A. (Org.). *Marx*.(4.ed., vol. 2) Nova Cultural. (Coleção Os Pensadores).
- MARX, K. ENGELS, F. (2001). *A Ideologia Alemã*. Martins Fontes.

PEDROSA, J. G.; RAMOS, N. (2020). A presença de Lourenço Filho na educação profissional brasileira dos anos 1950: trabalhos manuais e psicologia da aprendizagem. *História Revista*, Goiânia, V. 25, série 2, p. 266-286.

PEDROSA, J. G. (2021). Anglo-americanismo e industrialismo nos primórdios da república brasileira: Roberto Cochane Simonsen (1889-1948) e o trabalho moderno. *History of Education in Latin America*. v. 4, p. 1-20.

PEDROSA, J. G. RAMOS, N. DUENHAS, F. O. L. (2021). Lourenço Filho e a aprendizagem comercial nos primórdios da massificação do ensino comercial no Brasil (1946). *Tópicos Educacionais*. v. 27, p. 2-25.

PEDROSA, J. G.; BITENCOURT Jr. N. (2015). Americanismo e educação para o trabalho no Brasil: os Ginásios Polivalentes (1971-1974). *Trabalho & Educação*. V. 24, série 1, p. 11-30.

SILVA, T. T. (org.). (2000). *O Panóptico/Jeremy Bentham*. Autêntica.

SMITH, A. (1984) *Investigação Sobre a Natureza e as Causas da Riqueza das Nações* (3.ed.). Abril Cultural. (Coleção Os Pensadores).

TAYLOR, F. (1990). *Princípios da Administração Científica*. Atlas.

WEBER, M. (1992). *A ética protestante e o espírito do capitalismo*. Pioneira.

#### COMO CITAR ESTE ARTIGO

PEDROSA, J. G., & Rios de Carvalho Viana, M. I. (2023). CONCEITOS PARA PENSAR A EDUCAÇÃO PROFISSIONAL E TECNOLÓGICA. HOLOS, 6(39). <https://doi.org/10.15628/holos.2023.14537>

#### SOBRE OS AUTORES

##### J. G. PEDROSA

Doutor em Educação: História, Política, Sociedade (PUC/SP); docente no PPG em Educação Tecnológica (CEFET-MG); líder do Grupo de Pesquisa Narrativas e Apropriações do Anglo-Americanismo no Brasil.

E-mail: [jgpedrosa@uol.com.br](mailto:jgpedrosa@uol.com.br)

ORCID ID: <https://orcid.org/0000-0002-8295-8313>

##### M. I. R. C. VIANA

Doutora em Estudos de Linguagens pelo Centro Federal de Educação Tecnológica de Minas Gerais/CEFET-MG; Professora de língua Inglesa nos cursos técnicos e de graduação do CEFET-MG Campus Divinópolis; Membro do Grupo de Pesquisa Narrativas e Apropriações do Anglo-Americanismo no Brasil. E-mail:

[mariaisabel@cefetmg.br](mailto:mariaisabel@cefetmg.br)

ORCID ID: <https://orcid.org/0000-0002-7871-9766>

**Editora Responsável:** Francinaide de Lima Silva Nascimento



Submitted December 15, 2022

Accepted September 5, 2023

Published December 27, 2023

