

THE THEORY OF THE DUALIST SCHOOL IN THE TRAINING OF TECHNOLOGISTS

A TEORIA DA ESCOLA DUALISTA NA FORMAÇÃO DE TECNÓLOGOS

LA TEORÍA DE LA ESCUELA DUALISTA EN LA FORMACIÓN DE TECNÓLOGOS

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ABSTRACT: This work is located in the field of theories of education and its relationship with the training of technologists. Thus, it comes against the growing offer of this special type of higher education aimed at the formation of qualified labor demanded by the labor market. It aims to analyze the training of technologists from the theoretical framework of the dualistic school presented by Dermeval Saviani. With a qualitative approach to research, based on bibliographic review, the following writings take Saviani's work "School and Democracy (1999)" and other texts that problematize educational dualism as a guide. We conclude that the labor market constitutes the space where the dualistic school theory materializes through educational processes, from basic to higher education, which aim at the formation of the specialized workforce and seduced by the neoliberal ideological discourse of guaranteeing access to jobs and social ascension.

KEYWORDS: Theories of education. Dualist school. Training of technologists.

RESUMO: Este trabalho localiza-se no campo das teorias da educação e sua relação com formação de tecnólogos. Assim, vem ao encontro à crescente oferta deste tipo especial de educação superior voltada para a formação de mão de obra qualificada demandada pelo mercado de trabalho. Objetiva analisar a formação de tecnólogos a partir do referencial teórico da escola dualista apresentado por Dermeval Saviani. Com uma abordagem qualitativa de pesquisa, baseada na revisão bibliográfica, os escritos a seguir tomam como guia a obra "Escola e Democracia (1999)", de Saviani, e outros textos que problematizam o dualismo educacional. Concluímos que o mercado de trabalho constitui o espaço onde a teoria da escola dualista se materializa por meio de processos educativos, do ensino básico ao superior, que visam a formação da força de trabalho especializada e seduzida pelo discurso ideológico neoliberal de garantia de acesso a melhores postos de trabalho e ascensão social.

PALAVRAS-CHAVE: Teorias da educação. Escola dualista. Formação de tecnólogos.

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RESUMEN: *Este trabajo se ubica en el campo de las teorías de la educación y su relación con la formación de tecnólogos. Así, atiende la creciente oferta de este tipo especial de educación superior orientada a la formación de mano de obra calificada que demanda el mercado laboral. Tiene como objetivo analizar la formación de tecnólogos desde el marco teórico de la escuela dualista presentado por Dermeval Saviani. Con un enfoque cualitativo de la investigación, basado en la revisión bibliográfica, los siguientes escritos toman como guía la obra de Saviani “Escuela y democracia (1999)” y otros textos que problematizan el dualismo educativo. Concluimos que el mercado laboral constituye el espacio donde la teoría de la escuela dualista se materializa a través de procesos educativos, desde la educación básica hasta la superior, que apuntan a la formación de la fuerza laboral especializada y seducida por el discurso ideológico neoliberal de garantizar el acceso a los mejores trabajos y ascensión social.*

PALABRAS CLAVE: *Teorías de la educación. Escuela dualista. Formación de tecnólogos.*

Introduction

Centuries of slavery and discrimination of manual labor have marked and still mark Brazil. Determined on the one hand by unequal access to goods and services by those who produce them, and on the other by the concentration of income by those who own the means of production, this secular structure of social dualism is replicated in an educational dualism that extends to different stages, levels, and modes of education throughout the history of Brazilian education.

The concern with the educational processes of the population, especially the overcoming of illiteracy, only appears in the political scenario during the 20th century, even if linked to the interests of capital and of the class that holds political and economic power. The education offered was limited to the "first letters and manual work for orphans and destitute people", while for the ruling classes a general and propaedeutic education was destined (CIAVATTA, 2013, p. 294).

The educational duality is, therefore, old and long-lasting. Its structural character dates back to the 1940s, with the constitution of laws that regulated education in parallel and segmented educations, especially in secondary education, which was divided into propaedeutic and vocational. The laws that proposed the equivalence of these two types of secondary education, which followed in the 1950s, did little to promote the overcoming of discriminatory structures. Nevertheless, new configurations of higher education tried to promote the expansion of this duality beyond basic education.

In the 1960s, the imminence of the Superior Courses of Technology as a possibility of access of the popular classes to higher levels of education reinforced the dualistic vision of an education for the working class, different from the one offered to the dominant class, besides contributing to the consolidation of a project of hegemonic construction of foreign capitalism within the national development policy.

Currently, the consolidation of the influence of neoliberal ideals and its educational reforms, materialized in the LDB (Law of Guideline and Bases) nº 9.394/1996, which legitimated the offer of a Professional and Technological Education at a higher level, aligned to the interests and demands of the labor market, reveals the expansion of the economic dimension over schooling, justified by the theory of human capital in its circular character (FRIGOTTO, 1989). In this sense, education is called to give its share of contribution to the economic development from the formation of workers aligned to the market needs and that share the current bourgeois ideology based on progress and consumption.

In this context, and based on a critical reference of the phenomenon exposed here, we understand that the current conjuncture of the Brazilian educational model, especially in higher education, based on the segmentation of its offer in different types of institutions and courses, has contributed to the dissemination in the higher levels of education of a structural educational dualism guided by the capitalist demands exposed above.

In this regard, this work turns to the Higher Education Technology Courses, aiming to analyze the formation of technologists based on Dermeval Saviani's studies about the critical-reproductive theories, specifically the dualist school theory, present in the book *School and Democracy: Theories of Education, Curvature of the Rod, Eleven Theses on Education and Politics* (1999).

To this end, using as methodology the literature review, we will revisit the theoretical frameworks of Frigotto (1989), Saviani (1999), Santos (2009), Santos and Jiménez (2009), Ciavatta (2013), Moura (2013), Brandão (2013), and Santos and Xerez (2016), as well as analyze the legal devices that comprise the historical-normative paths of the Higher Technology Courses.

The dualistic school theory

For Dermeval Saviani (1999), educational theories have different structures and objectives that can overcome or reaffirm the social problems that condition the subjects to a

process of social marginalization. Thus, the thinker divides the educational theories into two groups: Non-Critical theories and Critical-Productive theories.

Non-critical theories are so called because they understand the school as an institution disconnected from society and that enjoys a certain autonomy from social problems. In this way, the pedagogical tendencies of this group would carry the potential to overcome marginality by promoting social equalization, either by the clarification of subjects (Traditional Pedagogy), by their inclusion (New School Pedagogy) or by their preparation for productivity and efficiency (Technicist Pedagogy).

Critical-productivist theories understand school as an instrument at the service of the State for an ideological imposition that happens through a symbolic violence marked by the incorporation of a cultural capital determined by the dominant class over the dominated class. From this perspective, besides being a place of reproduction of social oppression, school would be a space destined to prevent the development of an ideology proper to the proletariat class³.

Thus, in the group of critical-productivist theories, Saviani (1990) puts the pedagogical trends that understand the school as an institution strictly linked to society, to the point of reproducing and reinforcing the same inequalities present in the social sphere, collaborating more for the maintenance of marginality than for its overcoming. This group includes the theory of the school as the ideological apparatus of the State, the theory of the educational system as symbolic violence, and the theory of the dualist school.

Based on Baudelot and Establet (1971), Saviani (1999) locates the dualist school theory within the group of critical-reproductive theories. This is because this theory understands that "the school, despite its unitary and unifying appearance, is a school divided into two large networks, which correspond to the division of capitalist society into two fundamental classes: the bourgeoisie and the proletariat" (SAVIANI, 1999, p. 35).

For the authors, there are only two schooling networks: a secondary-superior network (SS) and a primary-professional network (PP), which are constituted from the relations that define them as a capitalist schooling apparatus of reproduction and maintenance of the dominant ideology.

It is the division of society into antagonistic classes that ultimately explains not only the existence of the two networks, but also (and what defines them as such) the mechanisms of their operation, their causes and effects" (BAUDELLOT; ESTABLET, 1971, p. 42 apud SAVIANI, 1999, p. 36).

³ Although the categories "proletarian class" and "bourgeois class" may seem insufficient to explain the complexity of labor relations today, we understand that this is a Marxist perspective embraced by Saviani throughout the work *School and Democracy* (1999), which we will keep in the body of this text.

The school duality denounced by this theory is not limited to one stage of the school process, but goes through all formal education (SAVIANI, 1999), that is, it comprises primary education and extends to other levels and modalities of education, including higher levels of education, as we will demonstrate below.

The dualist school theory merges with the thesis of the school as an ideological apparatus of the State (AE), advocated by Althusser, when Saviani (1999) presents us what would be the functions of the school in that theoretical conception. In the dualist school theory, the school has the function of *contributing to the training of the labor force*, insofar as, with technological and scientific advances, an increasingly refined and specific qualification is required; and to *inculcate bourgeois ideology*. These functions would be interconnected, because it is in the process of inculcation of bourgeois ideology that the worker's formation occurs, where "the ideological aspect is dominant and commands the operation of the school system as a whole" (SAVIANI, 1999, p. 35).

In this sense, the role of the school, from the dualist school theory on, goes beyond legitimizing and reinforcing the bourgeois ideology: it should prevent the development of the proletarian ideology and its revolutionary struggle, forged in the daily practice of resistance through their organizations and social movements. It is, therefore, this ideology that the dualist school must oppose. To this end, it uses an organization that is separate from production.

The bourgeois school does not advertise training for intellectual labor and manual labor. In doing so, it would be revealing its dualistic and excluding character. "Rather, it should be said that it qualifies intellectual labor and disqualifies manual labor, subjecting the proletariat to bourgeois ideology under a petty-bourgeois disguise" (SAVIANI, 1999, p. 38). In this way, the school is a factor of marginalization in relation to the bourgeois culture as well as in relation to the proletarian culture, that is, it distances the subjects from the culture and ideology of their class by offering them, from a network of primary-professional schooling, the minimum of a bourgeois culture and its byproducts so that they believe in the dominant ideology, abandoning the process of revolutionary struggle.

Thus, the theory of the dualist school understands the school as an instrument of domination of the bourgeois state for the inculcation of the bourgeois ideology and the formation of the worker, which in no way collaborates to the process of social equalization and which still places the subjects at the margins of the bourgeois society and unaware of the revolutionary movement of their own class.

In Brazil, the perspective of a dualist education leaps from the field of theory and materializes in the educational scenario in the first decade of the 20th century, when the Schools

of Apprentices and Artisans were created. Aimed at "poor and humble" and the result of a proposal to reorganize Vocational Education in Brazil, these schools were intended to prepare workers for professional practice in order to meet the needs of the historical agricultural economy and the imminent process of national industrialization (RAMOS, 2014, p. 25).

Since then, the dualism of the Brazilian educational system has been organized in different ways with each new reform demanded by the developmentalist policy. For Ramos (2014), the opening for entry and control of foreign capital in the growth of national industry required a higher qualification of the domestic workforce, expanding the so-called "industrial technical education".

Regulated by Law No. 3.552/1959, the technical industrial education aimed, in the terms of its Article 1:

- a) provide a general cultural base and technical initiation that will allow the student to integrate in the community and participate in productive work or continue his studies; b) prepare the student for the exercise of specialized medium-level activities (BRAZIL, 1959).

In the same year, Decree no. 47.038/1959 regulated the creation of the first Federal Technical Schools, strategically distributed throughout the national territory, thus constituting a federal technical education network, created to train the labor force needed to maintain the socioeconomic development project controlled by foreign capital.

At this juncture, the Brazilian educational system started to count on primary education and two secondary schooling networks: one encyclopedic and preparatory for higher education (propedeutic education), aimed at the national bourgeois elites; and another professional (technical education), aimed at the popular layers that would supply the productive front line with qualified labor.

Such systems were, therefore, autonomous and restricted in terms of the productive and occupational configuration, offered in specific institutions for these purposes (RAMOS, 2014, p. 25-26), and configured what Saviani (1999), based on Baudelot and Establet (1971), later classified as a network of secondary-superior (SS) and primary-productivist (PP) schooling.

The explicit educational dualism of the 1950s tried to be overcome with the Law of Directives and Bases of National Education (LDBEN) nº 4.024, of 1961, which introduced a greater school homogeneity and a universal character of technical education based on the equivalence between secondary and professional education. However, such equivalence between propedeutic and technical education only allowed, in practice, that technicians who completed their courses could apply to any higher level course (RAMOS, 2014, p. 26).

In this perspective, LDB n° 4.024 of 1961 also promoted legal flexibility so that isolated and private institutions could plan the structuring of courses or colleges on an experimental basis with their own curricula, methods and school periods for a higher level technical education, that is, a Technological Education.

In this scenario, the expansion of educational dualism from the basic levels to the higher levels is configured in a first governmental attempt to articulate the different stages of education with the offer of higher level courses in technology, aligned to the economic-technical educational policy, which we will deal with better in the following writings.

Educational dualism and the formation of technologists

In the context of the social division of labor and social classes, there is a "blurring of the nature of productive functions," which ends up reducing the ability of the dominated classes to understand the complex processes of manual activity, reducing them to mere execution. Such reductionism extends to different dimensions of society and transcends the aspects of production of goods and services, influencing, above all, "the educational processes and the social places that are related to techniques, technologies and technological education" (CIAVATTA, 2013, p. 275).

In addition to the devaluation of manual activities, historically relegated to the popular classes, there is a growing need for competitive mercantilization in the field of production and circulation of goods, making urgent processes of:

technological innovation, new work organization, cost reduction [...], the deregulation of labor relations and the acceleration of training processes through short courses, functional to the market - such as professional master's degrees and higher technology courses (CIAVATTA, 2013, p. 275).

In the face of immediacy and economic determinism, the Brazilian educational scenario, as of LDB n° 4.024 of 1961, continued the division between a propedeutic and a professionalizing education, already present in secondary education, in the higher levels of education, starting with the legal flexibilization for the creation of intermediate courses between technical and higher education, later called Superior Courses of Technology (SCT).

Starting from a Marxist theoretical framework, based on the understanding that we live in a capitalist society, founded by social relations of production between social classes with conflicting interests, based on the ownership or not of the means of production, Brandão (2013, p.308) describes the SCTs as "a specific type of higher education course for those members of

the working class who manage to get a higher education," characterized by low theoretical density and high concern with practical teachings, pragmatically aimed at filling specific jobs in the market.

The SCT had its historical-normative trajectory started specifically in 1962, with the creation of Operation Engineering courses in different isolated institutions, with the perspective of offering a technological level higher education. Result of studies commissioned by the Organization of American States (OAS) and conducted by the Ministry of Education and Culture (MEC) and the Getúlio Vargas Foundation (FGV), such courses were justified by the industry's demand for more specialized professionals in a "smaller range of activities, capable of forwarding solutions to the practical problems of day-to-day production, taking leadership positions and guiding in maintenance and in the superintendence of operations" (BRANDÃO, 2013, p. 309).

In this context, Brandão (2013) brings to light the historical dualism existing in Brazilian society, present in the educational scenario with the proposal of a higher education divided with purposes for a *practical professional training and another of scientific professional training*. For the author,

[...] the goal of this new higher education policy [...] was to train professionals who did not need to think, neither critically nor scientifically, they should only reproduce, operate and maintain the technology and industrial processes that Brazil imported from other countries, including the United States of North America (BRANDÃO, 2013, p. 317).

The 1990s marked a period of major structural changes in Brazil, which occurred due to reforms driven by the advance of neoliberal ideals in the face of the deep crisis of financial capitalism triggered in the 1970s by the end of the "welfare state" model (MÉSZÁROS, 2003 apud SANTOS, 2009, p. 75). The emergence of neoliberal ideas in this period dominated the field of economics, governments, and education.

For neoliberals, the government should not worry about economic issues, leaving these to the free market. In response, while delegating any role in the economy to the market, governments devoted their efforts to reforming the school system or improving "human capitalism" (YOUNG, 2007, p. 1290).

At this juncture, systematized education is also called to be part of this restructuring project, since, isolated in the logic of capitalist society and unable to overcome class society by itself, the school has no ability to free itself from the role of forming individual consciences to meet the needs of the world governed by capital (SANTOS; XEREZ, 2016, p. 601):

In the framework of the claim for a certain particular type of instruction, that is, when the school is called to organize itself to meet a useful, mercantile, rational, instrumental instruction, in the panorama of the birth of capitalism, education definitely takes the course of aligning itself to bourgeois needs (SANTOS, 2009, p. 32).

In this scenario, school is inserted in the debate on the relations between capital and labor, based on the educational reforms advocated by international organizations. These reforms, in turn, would have the mission of

[...] *resignify* education, its purposes, methods and forms of organization - or management - of education systems, with the dual purpose of adjusting the educational good to the rules and demands of the market and, at the same time, form individualities in tune with the needs of the process of capital accumulation in the context of its crisis (SANTOS; JIMÉNEZ, 2009, p. 172).

It was then evoked the urgency of a new educational model that would prioritize the professional training of a new worker profile, ensuring the full development of skills and abilities that would place them in the equally new and technological labor market. Aligned to this discourse, government policies also emphasized that the expansion of technological graduation in Brazil would serve the ideal of "expanding higher education to the working class" (SANTOS; JIMÉNES, 2009, p. 173).

Thus, based on the Law of Directives and Bases of National Education No. 9.394, 1996 (LDB), the provision of Vocational and Technological Education should "in fulfilling the objectives of national education, integrate the different levels and modalities of education and the dimensions of work, science and technology" (BRASIL, 1996). In this way, the SCTs are being offered as higher technological undergraduate courses that would lead their graduates, according to Article 4 and Resolution CNE/CP No. 3 of December 18, 2002, to the technologist diploma.

For Santos and Jiménez (2009), the offer of technological undergraduate courses reproduces the structural educational dualism, since its immediate and pragmatic character is characteristic of the model of education dedicated to the popular classes for the training of the workforce, while for the children of the elites an education is reserved for the future chiefs and leaders.

In this perspective, Ciavatta (2013) clarifies that the use of the term "educational dualism" is recurrent in studies in the field of education. In their majority, the authors start from the evidence of a difference in the quality of education offered to different social classes, with shorter courses, of lower cost for the popular classes and an education with more solid bases for the children of the elites.

Nevertheless, the author seeks in the analysis of the roots of the concept of "educational dualism" the understanding of the relations that establish this phenomenon. Although the identification of such duality is important, we should still investigate in depth "the social roots of the structural issue of social classes that supports it and its ideologization as desirable education" (CIAVATTA, 2013, p. 289), as presented by the dualist school theory.

The ideologization process, in the case of the Higher Courses of Technology, occurs both by the constant demand of the business community for specialized labor, and by the demand of unemployed young people for access to higher education through short courses that provide them some economic participation. Allied to such interests, governments respond to these classes by expanding and legitimizing the supply of higher education courses functional to the labor market, presenting them as a "political and educational truth through a process easily assimilated by the population, the ideologization of this course as the best, the most convenient in the present" (CIAVATTA, 2013, p. 290).

In the quest to meet the demands of the disadvantaged and the elites, there is the "obfuscation of the dynamic connection between, on the one hand, the given structure of social reality and, on the other, its original historical constitution and current transformations" (MÉSZÁROS, 2009, p. 105 apud CIAVATTA, 2013, p. 290). There is, therefore, a superficial analysis of the social totality from a cut given about the productive system that takes the place of the whole, as being by itself constitutive of all human existence. What we intend to highlight is the uniqueness of the look given to productive issues to the detriment of other dimensions of human society, also participants in social construction.

When it comes to training courses for technologists, Ciavatta (2013, p. 298) considers that "the pressing and urgent needs of the production system cannot justify the lightening of human training to which all young people are entitled in its fullest form". For the author, it is not excluding the Vocational and Technological Education as an educational possibility, but, for it to be really specialized, it must escape the functional superficiality dictated by the capital and dive deeper into more solid and human knowledge, because, "otherwise, technological education is another bait to the needy" (CIAVATTA, 2013, p. 296).

To summarize, Ciavatta (2013) proposes that in fact the "world of work" should be taken as a foundation, and not only its market. In this sense, she argues:

In addition to the functional knowledge for production, will the students of technology courses also understand how the labor market works and the profitable reasons for functional instability and precarious bonds, the causes of wealth and poverty, inequalities in access to culture, health, education, a more dignified life for all? (CIAVATTA, 2013, p. 300)

Final considerations

From a historical-dialectical materialist paradigm about the phenomenon of technologists' education, we understand that the conception of a dualist school is not a coincidence given by social circumstances, but is part of the process of construction of a hegemonic bourgeois society that has deep roots in the prejudiced devaluation of manual labor since colonial times and that has dragged on for centuries and is renewed at every leap in the name of national economic development.

Historically rooted in Brazilian society, the dualistic character of national education comprises different and distinct *educations* for each social class. To the more privileged, an education dedicated to general, propaedeutic and academic knowledge is reserved, aiming at a formation that guarantees the perpetuation of their hegemony and the occupation of command and leadership positions in the production lines of goods and services and in the social-political scenario.

The popular classes are offered an increasingly segmented, intermediate, cheap, brief and specialized education, aiming at the market and its relations of buying and selling labor power, with the promise of some social mobility and access to the minimum of technological and scientific wealth produced in the globalized capitalism.

In the relationship between work and school, the labor market becomes the time and space where the dualist school theory is materialized through educational processes from basic to higher education that aim at the formation of an increasingly specialized labor force based on the neoliberal ideological discourse of guaranteed access to the best jobs and consequently to a better income and social ascension. All this in the service of a pseudo national economic development based, above all, on the theory of human capital in its circular character (FRIGOTTO, 1989).

Beyond the theory of the dualistic school that jumps from Basic Education to Higher Education, we understand that this work did not exhaust the complexity of the issue of educational dualism in face of the depth of its relations in the complex history of Brazilian educational thought. We have detained ourselves in presenting the connections between that theory and the offer of formation of a specific type of worker in higher education: the technologists.

However, a more accurate understanding of the dualistic character of the technologists' education will only be possible with a deeper study of the reality given by the expansion and popularization of Higher Education Technology Courses, based on empirical investigations that

question the structure of such courses, the training of their teachers, their purposes, the profile of their students and graduates, their curricula, among other aspects.

As a theory, educational dualism could not deviate from criticism of its conceptions and worldviews. In the case of the dualist school theory of Bandelot and Establet, presented by Saviani, the problem lies in the fact that the school is reduced to a mere instrument of bourgeois domination, without seeing it as the stage or target of the social struggle to overcome social marginalization. Thus, the school seems to be an exclusive property of the bourgeois state, unable to be taken by the proletariat as an instrument of struggle for its own interests, that is, "there is no question of using the school as a means to elaborate and disseminate such ideology" (SAVIANI, 1999, p. 39).

From this criticism emerge possibilities of overcoming the dualistic character of education, especially coming from the thought of authors like Antonio Gramsci, Marx and Engels, in a perspective of a unitary school and integral humanistic training, omnilateral and polytechnic (MOURA, 2013).

Finally, this work can conclude that overcoming the dualist school in its different levels of education comprises a movement of constant struggle to occupy the spaces within the social (GRAMSCI, 1982), political and cultural structure, aiming to overcome the vision of education as an instrument of domination proper to capital. Schooling should be an arena contested by the popular layers for social transformation in order to overcome the hegemonic domination of globalized capitalism and the inculcation of its factory and market ideology within education.

REFERENCES

BRANDÃO, M. Cursos Superiores de Tecnologia: uma formação intermediária. *In*: MOURA, D. H. (org.). **Produção de Conhecimento, políticas públicas e formação em Educação Profissional**. Campinas, SP: Mercado de Letras, 2013. p. 307-343.

BRAZIL. Ministério da Educação. **Lei n. 9.394, de 20 de dezembro de 1996**. Estabelece as diretrizes e bases da educação nacional. Brasília, DF: 20 dez. 1996. Available at: http://www.planalto.gov.br/ccivil_03/leis/L9394.htm. Access on: 27 May 2020.

BRAZIL. Ministérios da educação/Conselho Nacional de Educação. **Parecer CNE/CES 436 de 05 de abril de 2001**. Dispõe sobre os Cursos Superiores de Tecnologia – Formação de Tecnólogos. Brasília, DF, 06 abr. 2001. Available at: <http://portal.mec.gov.br/cne/arquivos/pdf/CES0436.pdf>. Accessed on: 22 Apr. 2020

BRAZIL. Ministério da Educação. Conselho Nacional de Educação. **Resolução CNE/CP n. 03, de 18 de dezembro de 2002**. Institui as diretrizes curriculares nacionais gerais para a organização e o funcionamento dos cursos superiores de tecnologia. Brasília, DF, 23 dez.

2002. Available at: <http://www.mec.gov.br/semtec/educprof/Legislatecnico.shtm>. Access on: 22 Apr. 2020.

BRAZIL. Ministério de Educação. **Cadastro Nacional de Cursos e Instituições de Educação Superior**: Cadastro e-MEC. Available at: <https://emec.mec.gov.br/>. Access on: 09 Jun. 2020.

CIAVATTA, M. A historicidade da formação de tecnólogos. *In*: MOURA, D. H. (org.). **Produção de Conhecimento, políticas públicas e formação em Educação Profissional**. Campinas, SP: Mercado de Letras, 2013. p. 271-306.

CIAVATTA, M. O ensino integrado, a politecnia e a educação omnilateral. Por que lutamos? **Trabalho & Educação**, v. 23, n. 1, p. 187-205, 2014. ISSN 1516-9537/e-ISSN 2238-037X.

FRIGOTTO, G. **A produtividade da escola improdutivo**: um (re) exame das relações entre educação e estrutura econômico-social capitalista. Cortez Editora, 1989.

GRAMSCI, A. **Os intelectuais e a organização da cultura**. 4. ed. Rio de Janeiro: Civilização Brasileira, 1982

MOURA, D. H. Ensino médio integrado: subsunção aos interesses do capital ou travessia para a formação humana integral? **Educação e Pesquisa**, v. 39, n. 3, p. 705-720, 2013.

RAMOS, M. N. **História e política da educação profissional**. Curitiba, PR: Instituto Federal do Paraná, 2014. v. 5. (Coleção Formação Pedagógica)

SANTOS, D. G.; JIMÉNEZ, S. V. Graduação Tecnológica no Brasil: aproximações críticas preliminares. **Linhas Críticas**, Brasília, v. 15, n. 28, p. 171-185, jan./jun. 2009.

SANTOS, D. **Graduação tecnológica no Brasil**: crítica à expansão do ensino superior não universitário. 2009. 263 f. Tese (Doutorado em Educação Brasileira) – Faculdade de Educação, Universidade Federal do Ceará, Fortaleza, 2009.

SANTOS; J. D. G.; XEREZ; A. S. P. Apontamentos sobre a expansão da graduação tecnológica no Brasil. **Revista on line de Política e Gestão Educacional**, Araraquara, v. 20, n. 03, p. 600-622, 2016. DOI: <http://dx.doi.org/10.22633/rpge.v20.n3.9712>

SAVIANI, D. **Escola e democracia**: teorias da educação, curvatura da vara, onze teses sobre educação e política. Campinas, SP: Autores associados, 1999.

YOUNG, M. Para que servem as escolas? **Educ. Soc.**, v. 28, n. 101, p.1287-1302, 2007. ISSN 1678-4626.

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