

## From the Artisans' Apprenticeship Schools to industrial technical education (1909-1943)

*Das Escolas de Aprendizes Artífices ao ensino técnico industrial (1909-1943)*

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### Abstract

This article's proposition derives from its authors' interest to present a problematization of the process of constituting a national policy for the institution of industrial technical training. To achieve this goal, the constitution of the (Rede Federal de Educação Profissional (Federal Network of Professional Education), in 1909, was used foundation. An embryonic moment, with the creation of the Craftsmen Apprentices Schools (Escolas de Aprendizes Artífices), unfolding changes that reached its transformation into an Industrial High School until the implementation of the Organic Law of Industrial Education, 1942, the policy for training the industrial technicians was scrutinized more thoroughly. The sources used were the Laws and Decrees from 1906 to 1942 and research on the theme. Such sources were analyzed from the inspiration of the theoretical-methodological support of the History of Education.

**Keywords:** History of education. Professional Education. Vocational Education.

### Resumo

A proposição deste artigo decorre do interesse dos seus autores em apresentar uma problematização sobre o processo de constituição da política nacional para instituir a formação do técnico industrial. Para alcançar tal intento, partiu-se da constituição da Rede Federal de Educação Profissional, em 1909, momento embrionário, com a criação das Escolas de Aprendizes Artífices, desdobrando-se em mudanças que alcançaram a sua transformação em Liceu Industrial até a implementação da Lei Orgânica do Ensino Industrial, 1942, quando foi esquadrihada, de forma mais adensada, a política para formação do técnico industrial. As fontes utilizadas foram as Leis e Decretos dos anos de 1906 a 1942, além das pesquisas sobre a temática. Tais fontes foram analisadas a partir da inspiração do suporte teórico-metodológico da História da Educação.

**Palavras-chave:** História da educação. Educação Profissional. Ensino Técnico.

## 1 INTRODUCTION

This article aims to problematize the public policy initiatives for the implementation of the teaching of industrial trades, taking as a reference the process that, through its further development, enabled the training of the industrial technician to take place. The first of these initiatives is taken as a starting point: the creation of artisan apprentice schools, by Decree No. 7,566 of September 23, 1909, extending until the publication of the Organic Law of Industrial Education in 1942 and subsequent decrees, such as Decree-Law No. 4,127 of 1942, which established the grounds for the organization of the Federal Network of Industrial Education Establishments. In these terms, the discussion aims to contribute to discussions about the history of vocational education, as well as the setup of the Vocational Education field in Brazil (MEDEIROS NETA, 2016).

In a complementary sense, the discussion seeks to not lose sight of the political-social-economic movement that promoted changes in the form of organizing education, regarding the passage of an emphasis from primary to secondary education, in the change of the subject of training, from children to young people and, also, in the developments that took place concerning what was demanded by the socioeconomic development that made the industrial technician training emerge for the purpose employability in the industries emerging in the period.

The text is structured in two parts: the first discusses the genesis of the Schools of Apprentices Artisans, the difficulties and criticisms that they received for not meeting, at first, the purposes they proposed, as well as the creation of the Professional Technical Education Remodeling Commission, which was transformed into the Professional Technical Education Remodeling Service in 1921, to propose a new educational philosophy, from a new model of school.

The second part chronologically presents the reforms between 1934 and 1942, essential to the understanding of the process of constituting Industrial Technical Education as a branch of Vocational Education, as the sequence of these actions contributed to its organization, systematization, and regulation while changing its visibility/talkability.

## 2 SCHOOLS OF APPRENTICE CRAFTSMEN: PUBLIC POLICY FOR THE SCHOOLING OF PROFESSIONAL ACTIVITIES AND GENESIS OF THE FEDERAL NETWORK OF PROFESSIONAL AND TECHNOLOGICAL EDUCATION

The definition of the term technical industrial education, which this research is faced with, coincides with the public policies for workers' education, seen initially as something dissociated from general education, aimed at poor people, and, therefore, with a more charitable than formative character. As the eyes of the state were directed to the need for a more efficient education to meet the economic demands of the country, a succession of laws and decrees, public agencies, and

specific positions were created and, in this process, the technical industrial education (initially not yet named this way) was being shaped.

The creation of the Schools of Apprentice Craftsmen (EAAs, or *Escolas de Aprendizes Artífices* in Portuguese) has been considered, by several authors (CHAMON, 2008; SOARES, 1982; GOMES, 2003), the first governmental initiative for a public policy focusing on education for professional activities, aiming at training a labor force to meet the industry demands. The creation of 19 schools in the capitals of the Brazilian states that would be in charge of ministering elementary level professional technical education, offering several free courses to children between the ages of 10 and 13 was an initiative of the Nilo Peçanha government, in 1909. These schools were subordinated to the Ministry of Agriculture, Industry, and Commerce.

This initiative, as described in the decree of its creation, was justified by "the constant increase of the population" that required facilitation of "the means for the proletariat classes to overcome the difficulties" "of the struggle for existence"; the "technical and intellectual preparation" and the acquisition of "the habit of fruitful work," to keep the disadvantaged population away from idleness and the "school of vice and crime" and; the formation of citizens that are "useful to the nation."<sup>1</sup>

The proposition of the creation of the schools meant a government effort to create a national network of professional education, whose objective was the training of workers and foremen, through practical teaching and technical knowledge offered to the minors, preferably those with no fortune, which could serve the local industries.

It is important to state that the implementation policy of this network of schools preferred assistance to the disadvantaged for two purposes: preventing them from falling into idleness and vice and awakening, in the poor child, a love for work, so that they would become useful to society (CHAMON; GOODWIN JR., 2012).

This preferential option for poor children will define the courses that would be offered in schools; up to five workshops of manual or mechanical work, in addition to night courses, as stated in Article 8 of the Decree:

There will be two night courses in each School of Apprentice Craftsmen: primary, compulsory for students who cannot read, write, and count, and another focused on drawing, compulsory for students who lack this discipline for the satisfactory exercise of the trade they learn (BRAZIL, 1909).

Cunha (2000) analyzed the courses offered and found that they were much more geared to the interests of local craftsmen than to the needs of the manufacturing or industrial industries. According to him, most were related to teaching tailors, shoemakers, and carpenters. See Table 1 for the distribution of the workshops according to specialties:

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<sup>1</sup> President Nilo Peçanha's remarks to explain Decree-Law No. 7,566, of September 23, 1909.

**Table 1:** Number of workshops in the schools of apprentice craftsmen, according to specialties, 1912, 1916, 1922, 1926

Year	Woodworking	Carpentry	Blacksmithing	Metalwork	Foundry	Body Shop	Mechanics	Shoemaker	Saddlery
1912	16	6	8	6		4	3	16	3
1916	16	5	8	8	2	3	3	17	4
1922	17	7	10	7	2	3	3	15	4
1926	17	7	8	11	2	4	3	15	3

  

Year	Tailoring	Bookbinding	Goldsmithery	Electricity work	Lathe work	Sculpting	Painting Decorating	Modeling	Metals
1912	14	4	1	3	2	2	1	-	-
1916	17	4	1	3	1	2	1	-	-
1922	17	5	1	1				-	1
1926	17	6	1	-			1	1	-

Source: Relatórios do Ministério da Agricultura, Indústria e Comércio (1912-1926), In: Cunha, 2000, p. 72.

Among the schools, according to Cunha, the one in São Paulo was the closest to "the conditions of the growth of industrial production," especially for its proximity to the Liceu de Artes e Ofícios, so it strove to adapt the "workshops to factory requirements" (2000, p. 71). For him:

since the first years of its existence, the school of apprentice craftsmen of São Paulo was one of the few that offered teaching lathe work, and mechanical and electrical trades. Like the others, it had handicraft workshops, such as carpentry and decorative arts, but was one of the few that did not teach shoemaking and tailoring, which were found in most schools. CUNHA, 2000, p. 71).<sup>2</sup>

About the EAAs (Schools of Apprentice Craftsmen) providing services to the local industrialists, it is good to recognize, based on studies that problematize the issue (BRANDÃO, 1999; CUNHA, 2000; QUELUZ, 2000; CHAMON, GOODWIN JR, 2008), that there were no political-educational investments for children trained by the schools to be inserted in the world of the factory job, as it was expected. However, we agree with Queluz's assertion that schools represented

a strategic role in efforts to apply social controls to the proletarian classes, by disciplining and defining the role of the child. It was also

<sup>2</sup> The night courses ran until 1911, when they began to be offered during the day, by Decree 9,070.

an institution that disseminated republican values, especially the work ethic. It sought to consolidate nationality through productive work, forming the wealth of the nation and integration of potential elements of social disorder, the underprivileged minors, and foreigners, duly subdued (2000, p. 32).

It cannot be disregarded, however, that an initial intention was already being planted to link professional education to the supply of local industries. Such assertion becomes true when we follow the consequences, both of the reforms that will occur during the 28 years of existence of the EAAs<sup>3</sup>, and the very pressure that there will be on the part of the industry, especially throughout the 1920s, of a specific technical demand to meet their needs. Thus, it can be stated that the interest in the proposal of a public policy for professional education, in the first three decades of the 20th century, was driven by the concern to turn Brazil into an industrial country.

The EAAs did not undergo significant modifications, at least until 1926, that linked them to training for industrial employment. Their regulations were changed in 1911 and 1918, but only with occasional innovations, such as, for example, changes in the ages at which students could enter the schools. The first regulation, from 1909, foresaw the admission of students between 10 and 13 years old; the one from 1911, decree 9.070, from October 25, changed the ages from 12 to 16; while the one from 1918, decree 13.064, changed the ages from 10 to 16. The changes in the 1926 regulation will be commented on later.

Although there were no significant changes in the regulations, to establish an education that would meet the demands of the local industrial universe, there were propositional initiatives in the public policies scenario (FONSECA, 1961; CUNHA, 2000). According to Cunha

it was only in 1915, six years after the Federal Government had created the network of schools of apprentice craftsmen in the state capitals, that the National Congress took initiatives on professional education, especially in the industrial manufacturing field (CUNHA, 2000, p. 197).

In the year 1920, as a result of the several criticisms that the EAAs suffered, especially about the poor facilities offered, which were inadequate, the absence of teacher training, the ill-equipped workshops, and the absence of unity in teaching programs (FONSECA, 1916), the Minister of Agriculture, Industry, and Trade, Ildefonso Simões Lopes created the Commission for the Remodeling of Professional Technical Education, transformed in 1921 in the Service for the Remodeling of Professional Technical Education. It was a Commission of technicians on the subject to propose a new educational philosophy, from a new school model that would serve the national industry with qualified training (GOMES, 2003; QUELUZ, 2000).

According to Fonseca (1961)

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<sup>3</sup> The EAAs were transformed into Industrial High Schools by Law N° 378 of January 13, 1937.

the Commission, known as Service for the Remodeling of Professional Technical Education (Serviço de Remodelação do Ensino Profissional Técnico), was composed of administrators and experts from the Parobé Institute, which was functioning to satisfaction in Rio Grande do Sul. In fact, among all the apprenticeship schools existing at that time, it was the only Institute that presented encouraging results (FONSECA, 1961, p. 199).

The Commission presented a proposal for the remodeling of the professional teaching to the Minister, in 1923, which included the reform of the curriculum, the industrialization of the teaching, the inclusion of female training, teacher training, and the creation of an inspection department responsible for the structural organization of the schools (FONSECA, 1961).

It is important to consider that such an initiative revealed the presence of a proposition to industrialize the EAAs, even if it did not become law, at least at that time. According to Fonseca, it was in 1926 that the industrialization of the EAAs was made official. For him, the Remodeling Service, whose "person in charge" was still Engineer João Lüderitz, under a contract signed on 2/14/1924, bypassing the difficulty, managed to obtain, an act, signed on November 13<sup>th</sup>, 1926", from the Minister of Agriculture, Miguel Calmon du Pin e Almeida, which would have consolidated the provisions concerning the apprentice craftsmen schools. That Ordinance introduced industrialization in professional education (FONCESA, 1961, p. 192).

Educational reforms were being shaped throughout the 1930s in a scenario of intense disputes, parallel to the other issues that were engendering socio-economic and political relations in the educational field. Driven by the need to systematize and organize professional education in a context of industrial expansion, the State took a series of measures to boost professional technical education, such as the creation of the Inspectorate of Professional Technical Education in 1931 and its replacement by the Superintendence of Professional Education in 1934, aiming to expand and organize this branch of education.

### **3 ORGANIZATION, SYSTEMATIZATION, AND REGULATION OF TECHNICAL INDUSTRIAL EDUCATION (1930-1943)**

The organization of Brazilian professional technical education, in the years before the 1930s, was favored by specific circumstances, already explained above. And although the Schools of Apprentice Craftsmen are considered relevant in this process, it was the actions resulting from their existence and operation that enabled the debate around what would be defined as one of its branches: technical industrial education.

Some changes implemented in the 1920s were important for the consolidation of technical vocational education, or at least for it to be seen with more attention by the State and society. We highlight especially the creation of the Remodeling Commission in 1921, the Fidélis Reis law, the creation of the Inspectorate of Professional Teaching in 1923, and the creation of the Professional School of Mechanics of the Liceu de Artes e Ofícios, where professor Roberto Mange started to adopt the application of psycho technical tests in the selection of

students, as well as the Fernando de Azevedo Reform (1928), which presented a broader concept of professional education, distancing it a little more from the merely welfare oriented character through the articulation among the teaching branches.

These changes paved the way for the educational reforms implemented in the following years to include a concern with professional education, in the period from 1930 to 1943, marked by a mix of modernization and authoritarianism that characterized Brazilian society at that time.

The first, known as the Francisco Campos Reform (Reforma Francisco Campos, 1931), established the modernization and organicity in Brazilian high school education by guaranteeing the serialization of the curriculum, the compulsory attendance of students in classes, and the increase in the number of years of the high school course in two cycles, but at the professionalizing level, the reform only took care of commercial education.

With the internal growth of the industry and the war economy, there was the move from the constitutionalist government (1934-1937) to the New State (1937-1945), a period in which there were important political changes in the Brazilian society, which sought to build a national identity shaped through authoritarian actions and, as a consequence of this in the educational field, the Capanema Reform - second reform of the Vargas Era - occurred in 1942. It is in this reform that the propaedeutic and the professional education are directed to different paths, making the educational ascension and, consequently, the social ascension of the working class impossible because it was focused on this public, meaning, professional education aimed at manual work.

And it is in this period, between 1934 and 1942, that the focus is on the setup of industrial technical education, based on the analysis of official documents (reports, letters) available in the CPDOC collection and related to Gustavo Capanema's administration at the Ministry of Education and Public Health. The aim is to analyze the path that led to the constitution of Industrial Technical Education within the broader context of Professional Education, when it started to have its own identity, detaching itself from the assistance character and, therefore, starting to claim the status of a teaching modality.

The commissions, the trips abroad, the studies, and the creation of positions and appointments linked to professional education indicated that it was occupying a space in the state planning concerning education for work, especially since 1934, the beginning of Capanema's administration. (MEDEIROS NETA, ASSIS, CAMPOS, 2021).

Studying this period reveals an inconstancy regarding the use of terms to be used to denominate the training for work in official documents. To understand this process, it is necessary to go back to 1909 and examine the documents related to the creation of the Schools of Apprentice Craftsmen and their operation in the following years.

### 3.1 FROM TECHNICAL VOCATIONAL EDUCATION TO TECHNICAL INDUSTRIAL EDUCATION: PROBLEMATIZATIONS

Within a more or less specific period, from the creation of the Schools of Apprentice Craftsmen (1909) to the approval of the Organic Law of Industrial Education (1942), we attempt to show how the sequence of these actions changed the way the visibility of industrial technical education was constituted.

The analysis of the official documents produced in the period indicates that when referring to the type of teaching practiced in professional schools (public or private) it was not clear whether the teaching was industrial technical (restricted to industrial activities) or professional technical (covering a greater diversity of labor activities). Only with the preparation of the Professional Education Plan (1936), which presented professional education and its respective branches (industrial, commercial, domestic, normal, agricultural, artistic), was the organization of professional technical education more clearly presented, at least in official documents. This indicates that an image/discursive construction was underway regarding professional education and its implications for the policies to be implemented by the Ministry of Education and Public Health under the management of Minister Gustavo Capanema in accordance with the political and economic interests of the federal government. Here are some examples of this discursive confusion.

Decree 7,566 of September 23, 1909, created the *Escolas de Aprendizes Artífices* (EAAs), making professional education official in Brazil, affirming the need for technical and intellectual preparation for the "underprivileged of fortune" and establishing criteria for the organization and installation of the schools. Other decrees followed in the next years, dealing with legislation for teaching to be offered in these schools.

In a report on the *Escola Normal de Artes e Ofícios Wenceslau Braz* (Wenceslau Braz Normal School of Arts and Crafts), the decree on its creation presented it as a technical industrial teaching establishment for "preparing teachers, experts, and foremen for professional teaching and manual crafts teachers for elementary school.

In 1921, the Minister of Agriculture, Industry, and Commerce, Ildefonso Simões Lopes "recognizing the importance of industrial teaching" created the commission of specialized technicians to remodel professional teaching and examine the operating conditions of the EAAs. The commission headed by Dr. João Luderitz, besides proposing a complete reform of the schools, called for the creation of the Inspectorate of Professional Education. The remodeling was not carried out by subsequent governments, but the commission was maintained.

With the *Fidelis Reis Law*, Decree No. 5,421 of August 22, 1927, professional education was made compulsory in primary and secondary schools with the requirement of professional qualification tests for the certificate of completion and the granting of advantages for those who had taken the professional course.

Under the provisional government of President Getúlio Vargas, with the EAAs under the Ministry of Education and Public Health, a plan for general reform of technical vocational education was organized which, among other things, intended to articulate vocational education with primary education and to divide technical education into cycles that fit together and complement each other: elementary school courses; high school courses and associate degree courses (teacher and master training).



Decree No. 21,553 of May 3, 1932, approved the regulations which instituted the Inspectorate of Professional Technical Education to replace the Commission for the Remodeling of Professional Technical Education, already extinct in 1930. To this end, the positions of General Inspector and Regional Inspectors were created by decree, and the rules for the direction, guidance, and inspection of industrial education were outlined. Two years later the Inspectorate was transformed into the Superintendency of Industrial Education by Decree No. 24.558 of July 3, 1934, with the purpose of more promising transformations, but continued to lack adequate regulation.<sup>4</sup>

The name of the new agency already indicated that industrial teaching was at the center of the Ministry of Education and Public Health's management concerns concerning professional technical education. The decree contained relevant provisions for the development of industrial education, such as the annexation of specialization sections for regional industries to the Union's professional schools and the installation of other industrial schools to meet the needs of local industries, as well as the recognition of similar state, municipal and private establishments, which were inspected.

The decree provided for collaboration with industry associations to better adapt the educational methods applied to the industries, as well as for the creation of school scholarships to facilitate the attendance of apprentice candidates from the countryside of the states.

In March 1934, professors Omar Buyse (Belgian) and João Luderitz were commissioned by the head of the provisional government to conduct studies to improve the conditions of technical education in Brazil, seen at the time as important to the country's development. Among the criticisms reported about the deficiencies of the technical education provided in the EAAs was the excessive number of students (about 50 for each teacher or master), seen as anti-pedagogical. These criticisms had been pointed out earlier by the Remodeling Commission, which had drawn up an action plan to remedy these deficiencies, but that had not yet been implemented.

In a detailed report dated November 5, 1935<sup>5</sup>, Minister Capanema was informed of the urgent needs of the buildings where the EAAs operated, each one being mentioned by name. The urgency of the reforms was emphasized, with a detailed description of all the renovations carried out in each school since 1930.

By that date, there were 66 technical industrial schools run by the states, municipalities, and private schools all over the country, with a total enrollment of 10,468 students, added to the 5,623 students in the federal vocational schools, for a total of 16,091 students enrolled in this branch of education, nationwide. These figures show how insignificant the reach of industrial technical education was when compared to the country's need for technical training.

By law No. 378 of January 13, 1937, due to a reform in the Ministry of Education and Public Health, the Superintendency of Industrial Education was

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<sup>4</sup> Cf. Official letter sent by Francisco Montojos, holder of the position, to Minister Gustavo Capanema, on January 08, 1935, in which he presents a historical draft of the Schools of Apprentice Craftsmen in the 25 years of its foundation. Available at: [https://docvirt.com/docreader.net/arq\\_gc\\_g/15?pesq](https://docvirt.com/docreader.net/arq_gc_g/15?pesq)

<sup>5</sup> CPDOC File. GC.1934.00.00/1 (11). Available at: [https://docvirt.com/docreader.net/arq\\_gc](https://docvirt.com/docreader.net/arq_gc).

abolished, and its attributions were transferred to the Division of Industrial Education in the National Department of Education.

Although industrial education was only one branch of professional education, the term became so popular that people referred to all trades as industrial. By that time, as we shall see, the EAAs had already become Industrial High Schools, contributing to a generalization of the idea that technical education was necessarily industrial.

The National Council of Education was restructured, in January 1936, as proposed by Capanema, aiming to adapt it to its new role of preparing the National Education Plan, which had been assigned to it by the Constitution of 1934 (Law No. 174 of 1/3/1936). In the first session of the new Council, convened by the minister, he gave a speech in which he outlined the overall tasks to be performed by the counselors, stating that it would be a difficult task since for the first time the country would make a law that covered the entire field of education.

The Minister had already justified the need for a Law creating a Commission to prepare the National Plan for Professional Education for the President. According to him, the federal government was building Industrial High Schools and a plan was needed to organize professional education, which until then was found in the National Education Plan. The Constitution foresaw the expansion of the Brazilian worker's education in collaboration with the industries, so there was an urgent need for the Union to draw guidelines that would grant efficiency to the constitutional requirements.

This would require the collaboration of all the people responsible for the administration of this branch of education, as well as the participation of industrialists, businessmen, farmers, and technicians from many fields to organize a plan that would meet the needs of Brazil's education and its economic interests, and that would not diverge from the initiatives and achievements of some states and the Federal District, in this aspect.

The Commission was formed by Dr. João Luderitz, Prof. Dr. João Luderitz, Prof. Horácio da Silveira (Superintendent of Professional and Domestic Education of São Paulo), Prof. Léon Renault (Director of the João Pinheiro Agricultural Patronage), and Dr. Francisco Montojos (Superintendent of Industrial Education), and assisted by the engineers Gabriel Azambuja, Ney Armando, Rodolfo Fuchs and Artur Seixas, regional inspectors of industrial education, produced a study covering the branches of professional education: industrial, agricultural, commercial, domestic, in all educational levels, from worker training to specialized technician training, and other modalities of professional training such as railroad education, highway education, telephone operators, fishermen, drivers, musicians, dancers and several other specialties, which in the words of the minister "did not fit well into any of the branches mentioned, but qualified man for one."

### 3.2 THE NATIONAL EDUCATION CODE AND THE PROPOSED PATHS FOR PROFESSIONAL EDUCATION IN BRAZIL BETWEEN 1934 AND 1943

According to the National Education Code, professional education was of great technical and pedagogical reach and, together with higher education, was part of the so-called specialized education, covering the teaching of all techniques (arts, crafts, and various specializations), which, at the time, did not need to be based on high school education.

Because of its complexity, it included modalities that were distant and different from each other, such as the teaching of fishing, carpentry, nursing, dancing, etc. There was not a complete and precise classification, but in general, it was presented under the following names, or branches: Industrial; Agricultural; Commercial; Domestic; and, Artistic.

The Code, according to its authors, would be the first step to establishing the trail needed to give to professional education in the country, which would make its organization and planning easier.

To directly tackle the problem of professional education by installing, maintaining, and directing educational establishments throughout the national territory, the first thing to be done would be to map the establishments maintained by the Union considering that they were under the management of different ministries, namely:

1. Ministry of Education and Health - 19 Schools of Apprentice Craftsmen; 1 Art and Crafts Teacher Training School (Wenceslau Braz School); 1 Nursing School (Ana Nery School) and 2 Schools for students with special needs (at that time called abnormal) which were the Benjamin Constant Institute (Instituto Benjamin Constant) and the National Institute for the Mute Deaf (Instituto Nacional de Surdos Mudos), both in the Federal District.
2. Ministry of Agriculture - 9 Agricultural Apprenticeships (Acre, Pará, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia, Minas Gerais, and Rio Grande do Sul) and the Agricultural School of Barbacena in Minas Gerais.
3. Ministry of Justice - 5 Professional Schools, 3 of them in the Federal District and 2 in Minas Gerais.

After mapping the schools, the Code foresaw the following steps:

- a. Gather all the establishments under the management of the Ministry of Education and Public Health to organize the federal system of professional education that could meet the needs of each region of the country according to the verification of the school population and enrollment.
- b. Remodel the buildings in regular condition and transform them into high schools.
- c. Eliminate those that, due to their precarious buildings, could not be properly remodeled.
- d. To construct new buildings for the efficient installation of the network throughout the country.

We can infer, based on the document, that the work on the high schools began in 1937 and continued in the following years. In a 1939 letter, sent by Rodolfo Fuchs, Regional Inspector of Industrial Education, to the Cabinet of the Ministry of Education and Public Health and forwarded to Francisco Montojos, Director of the Industrial Education Division, the subject was the change of the Schools for Apprentice Craftsmen to Industrial high schools.

Fuchs expressed his concern about the need to adopt a few measures so that the high schools (Liceus), like the one in Recife, would be as close as possible to an actual vocational school, and would distance themselves from the welfare character of the Schools of Apprentice Craftsmen. He mentions the construction of new schools within a general plan, and the need to reduce the enrollment of literacy classes, and prioritize the reception of students with complete elementary education to occupy the enrollment places in professional courses as an example.

He also points out the need to expand the existing workshops and build new ones within an expansion plan, reminding the Minister that the government of Pernambuco had assigned the land for construction and also presents a sketch of the project and a cost estimate (about 500 contos) for the construction of the workshops, emphasizing that the full plan would take about 10 years to complete.

In 1941, Francisco Montojos, in a letter to Minister Capanema, suggested which schools could be transformed into High Schools and Industrial Technical Schools due to their material conditions (buildings, equipment, etc.).

- The Schools of Amazonas, Maranhão, Espírito Santo, Distrito Federal (Rio de Janeiro), Goiânia, and Pelotas would be high schools.
- The high schools in Pernambuco and Paraná could be transformed into technical schools if their facilities were expanded since they had land adjacent to their current buildings.
- The high schools of Pará, Piauí, Ceará, Rio Grande do Norte, Paraíba, Alagoas, Sergipe, Bahia, Rio de Janeiro, São Paulo, Santa Catarina, Minas Gerais, and Mato Grosso could operate as industrial schools.

Montojos concluded his correspondence by warning that the states of Minas Gerais and São Paulo required technical schools due to their economic conditions and industrial progress, but their location and equipment did not allow an immediate transformation, requiring projects for the construction of buildings. At the same time, he said that such projects were already under study.

About a year later, in a letter to Minister Capanema, Montojos informed that the examination of the reports of the schools in 10 states and the Federal District showed: the non-existence of official industrial teaching in 8 schools; 2 schools (Minas Gerais and Maranhão) had not even sent the report; and, the schools of Sergipe and Pernambuco had asked to be leveled to industrial schools, but with incomplete data.

From January 1943, the technical industrial schools maintained by the Union sent their work plans to the Ministry of Education and Public Health. These plans provided for regular funding of industrial and masters' courses, as well as technical

courses that complied with the Regulation of the Industrial Teaching Courses Syllabus created by Decree No. 8.673 of February 3, 1942. (MEDEIROS NETA *et al.*, 2018).

The expert and industrial courses were divided into sections: metalworking, mechanical industry, industrial arts, electrical engineering, construction industry, and graphic arts, among others. The technical courses planned for 1943, on the other hand, were distributed into the mechanical industry, electrical engineering, construction industry, and industrial arts sections.

The analysis of the work plans and other documents (official letters) allows us to infer that, despite the Organic Law of Industrial Education and the changes that came from it, in the sense of changing the name, some industrial schools (former Liceus, or high schools) took a while to definitively change of name to Technical Schools. The difficulty in accepting the changes, especially the name, indicates that these schools had built a culture of their own, which is understandable in the circumstances in which these changes were being proposed.

The schools were still divided into technical and industrial schools, according to their work plans and nomenclatures.

**Table 1:** Nomenclature of technical schools in January 1943

<b>Technical/State Schools</b>	<b>Industrial Schools/State</b>
<b>Manaus Technical School (AM)</b>	Teresina Industrial School (PI)
<b>Curitiba Technical School (PR)</b>	Aracaju Industrial School (SE)
<b>Recife Technical School (PE)</b>	Campos Industrial School (RJ)
<b>Fortaleza (CE)* Technical School</b>	Florianopolis Industrial School (SC)
<b>Goiânia (GO) Technical School</b>	Belo Horizonte Industrial School (MG)
<b>Salvador (BA) Technical School</b>	Maceio Industrial School (AL)
<b>Vitória Technical School (ES)</b>	João Pessoa Industrial School (PB)
<b>Sao Paulo Technical School (SP)</b>	Cuiabá Industrial School (MT)
<b>Pelotas Technical School (RS)</b>	Natal Industrial School (RN)
<b>Ouro Preto Technical School (MG)**</b>	
<b>São Luís Technical School (MA)</b>	

Source: Prepared by the author Adapted from the Gustavo Capanema - CPDOC

\*In the report, the Technical School of Fortaleza included a request for attention to the insalubrious conditions of the building and its need for renovation and construction.

\*\*The Ouro Preto technical school reports that at first, it operated in an annex of the National School of Mines and Energy.

Industrial education was a government concern, so much so that it was featured in several government speeches and, consequently, in the 1937 Constitution, one of its articles established that "the pre-vocational and professional education for the less favored classes is, in matters of education, the first duty of the State." To meet this obligation, the government was to provide financial support for existing schools and create schools, in addition to subsidizing "those of State, Municipal, individual or private and professional associations." Records of the progress of school construction indicate the effort to achieve these goals.

In coherence with the goals of the Ministry of Education and Public Health, the financial resources for renovation, expansion, and construction of professional schools, which had been gradually increasing since 1932, practically doubled in 1937 and continued to grow until 1940. Enrollments also increased along with the increase in resources. However, the observations concerning the schools in Fortaleza and Ouro Preto, described above, indicate that the construction of buildings and expansion of the Industrial high schools, intended by the Ministry of Education and that began in 1937, were still far from being completed, despite some significant advances.

In this sense, the professional education reform, enhanced by the Organic Laws, especially the Organic Law of Industrial Education of 1942, if by any chance it failed to fully correspond to the demands made by society and industries, it did, in fact, open a promising path by establishing the organization, systematization, and regulation of technical training integrated to general education, ensuring that educational institutions fulfilled their role as defined by the Organic Law: forming an elite of technicians needed for industry, with training directed to discipline, and the principles of scientific rationalization.

#### **4 FINAL CONSIDERATIONS**

The creation of the Schools of Apprentice Craftsmen meant the government's effort to create a national network of professional education, whose goal was to train workers and foremen, which, in practical terms, more met the needs of craftsmen and less those of the manufacturers and industries themselves. This happened because, besides the political and educational investment for the placement of apprentices in factory positions having been insufficient, such schools still focused more on welfare than training, although this did not prevent them from fulfilling their function of disciplining and defining the role of the apprentices who are minors in the social order of that time.

Throughout the 1930s, in parallel with other issues that shaped the socio-economic and political relations in the educational field, and in a scenario of intense disputes, the educational reforms were being shaped in the sense of organizing and systematizing technical industrial education with the creation and, later, improvement of management bodies of this branch of education within the Ministry of Education and Public Health, especially between 1934 and 1942, the period pointed out in this

study as the one when the constitution of Technical Industrial Education was inserted in the broader context of Vocational Education.

Education for work would occupy more space in the Ministry of Education's planning, but its name in the official records was confusing. However, the need for more efficient training to meet the country's economic demands forged a succession of laws and decrees, public agencies, and specific positions, created in the process of establishing Industrial Technical Education.

From the analysis of the work plans and other documents (letters) related to the management of Technical and Vocational Education, we can infer that, despite the changes resulting from the reforms, the concern, and the actions of the state, the Technical and Industrial Education increased the supply of qualified openings, since technical schools presented an education standard that was compatible with the professional education models intended by the Ministry of Education, but their small number could not meet the demand for this kind of education. In this respect, it was up to SENAI to fill this gap in technical education.

The creation of SENAI (Decree-Law No. 4.048, January 22, 1942) and the Organic Law of Industrial Education (Decree-Law No. 4.073, of January 30, 1942) met the industries' aspirations by offering more pragmatic and immediate training in the first case, while organizing industrial education as a system, in the second case, meeting the need to supply the growing demand for more skilled workers in an economic context arising from the Second World War and the increase in industrial production, job offers, rational use of labor and the need to replace imported technicians.

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