

THE SOCIOLOGY TEACHING ON THE TECHNOLOGICAL EDUCATION

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ABSTRACT: The objective of this paper is to analyze the role of Sociology as a curricular component in technological higher education. After the 1990s, professional and technological courses underwent a great expansion in the country, the discipline of sociology gained new spaces and became mandatory in this educational modality. Therefore, the main question we ask here is: What is the place of the humanities and, more specifically of sociology, in technological education? For this, first, the historical panorama regarding the teaching of the discipline of sociology in Brazil was described. Subsequently the place of this in the curricula of the technological superior courses is investigated. For methodological purposes, the curricular curricula and programs of the courses offered by the technological education of the State of São Paulo (FATEC) were analyzed as subsidies for the understanding of how it has been worked. It is assumed that the inclusion of sociology in curricula and teaching grids could represent an advance in public policies of professional education in the country, since it provides new possibilities in the training process, contextualizing the knowledge of this professional, in this case the "technologist", and allowing openness to their integral education.

Keywords: Sociology Teaching. Professional education. Higher Technological Education

1 INTRODUCTION

The present paper as well as the purpose for its execution arose from the author teaching experience in the Professional Education on the Technological Level. Indeed, the given challenge to professors of the called Social Sciences – including Sociology that has several challenges in specific formation courses. Frequently, the professionals in this area face student's questions as those: What is the use of Sociology? Why should we study Sociology? What is Sociology's contribution on the technologist formation?

Starting from the concern about these questions and with a view of the social sciences importance, or specifically, the importance of Sociology for the student whole formation, that propitiates sensibility for the human, socials and ethical issues, we seek for develop a brief reflection around this subject teaching on the Professional and Technological Education.

The paper is organized as follows: first, it presents a brief historical analysis about the Sociology teaching in Brazil. After that, it discusses how this subject figures in the technological higher education curriculum courses.

2 THE SOCIOLOGY TEACHING ON THE TECHNOLOGICAL AND PROFESSIONALS COURSES

According to Silva (2010), since the end of the ninety-century the teaching of the Social Sciences and Sociology¹ are accomplished in Brazil by means of History, Geography, Economy, Psychology, Moral and Civic Education, as well as Social Studies. Therefore, as explicitly way and as a scientific independent subject, we may consider that during the period 1925-1942 (with the Rocha Vaz Reform) we can identify evidences about the institutionalization and the systematization of the term “society science” in its strict sense. The subject, in this period became compulsory and its contents are demanded by higher education entrance exams, as pointed Moraes (2003).

In the meantime, there was several challenges to the subject inclusion on the school curriculum². Concerning about the high school, it was overlooked for a long time, additionally, it was kept under the conservative bias by the “Social Organization and Brazilian Politics” (OSPB, in Portuguese) during the military government period. The ending of the high school mandatory professionalization process stipulated by the law 7,044/81 establishes a gradual Sociology returns to the school curriculum what happened accurately in some states (SANTOS, 2004; OLIVEIRA, 2013).

Especially in São Paulo, Moraes explained that the Resolution of the Secretary of Education 236/83 made possible for Sociology to be included on the diversified part what started its return to the secondary education. It was in 1986 when the Secretary of Education in the state of São Paulo (SEESP in Portuguese) made a civil service exam to provide Sociology teacher positions, also in that year, the Studies and Pedagogical Standards Coordination (Cenp, in Portuguese) published the “Programmatic Contents Proposal for the Sociology Subject – Secondary Education” (MORAES, 2003, p.7)

Oliveira (2013) explained, at the same time that movement of Sociology returns on the regular secondary education in some states in the country, it becomes even more often present on the Professional and Technological Education curriculum from 1990, although, it only occurs once or twice weekly sessions per year. The author said that meanwhile the expansion of the Technological Higher Education courses, a deep crisis arose in this **net**.

¹ There is a reservation of the terms “Social Sciences” and “Sociology”, despite they are described as synonym in this paper, actually, in accordance with Silva (2010) these terms beget their own specificity. The author explains that, traditionally, the graduation courses in Brazil were organized and titled by “Social Sciences” and on the high school and the professional courses curriculums, the “Sociology” has achieved place as subject.

² For more details about the historical period of the Sociology in Brazil look for the survey done by Amaury Moraes (2003) to the article *Licenciatura em Ciências Sociais e Ensino de Sociologia: entre o balanço e o relato*.

In the second half of the decade 1990, the new Guidelines and Education Bases Law 9,394/96 – LDB in Portuguese –, was enacted. In its contents, specifically in article 36, paragraph 1st, line III, it establishes that “by the end of the high school the student should demonstrate: realm of Philosophy and Sociology needed to practice of the citizenship”. Enacting this law will propel not only the expansion of the subject on secondary schools but also recovery of the humanistic dimension through the Decree 5,154/2004 that authorizes the integrated education returns. It pursues to break with the view that the vocational and technical education must serve the market demand, what means:

[...] **means pointing to the** technical education of secondary school level to its scientific technological and social historical to the comprehension of the parts in the whole that they belong, and deal with education as a social totality, in other words, its several historical mediations and not only its technical, technological and productive. (CIAVATTA, 1996, p.922)

Silva (2010) related, after lasting shocks and the civil society participation (including syndicates of sociologists and syndicates of primary education teachers, secondary education teachers, university professors as well as scientific associations – as the Brazilian Association of Sociology), on July 7th 2006, the Council of Basic Education approve by unanimity the Report 38/2006. It changed the Nacional Curriculum Guidelines of High School and became Philosophy and Sociology compulsory subjects. Finally, the Law 11,684/08, that changed the article 36 of the Education Bases Guidelines Law (LBD in Portuguese) created on December 20th 1996, was sanctioned on July 2nd 2008. It represents the ending point of the discussion by establishing that Philosophy and Sociology will be included as mandatory subject in all grade levels of the secondary education and the vocational and technical education as well.

The Federal Decree 2,208/97, that regulates matters relating to the vocational education in the Education Bases Guidelines Law, establishes an organization to this education form by three levels: (i) Basic: improve the workers qualification, also provide the re-professionalization them, independently to their level of education. (ii) Technical: improve vocational career to high school registered or former students, it should be provided as this Decree set out. (iii)Technologist: corresponding to Technological Higher Education courses, developed to high school former students. In the next topic, we are going to talk over the third level

3 THE SOCIOLOGY AS CURRICULAR COMPONENT ON THE TECHNOLOGICAL HIGHER EDUCATION

According to the literature, the first Technological Higher Education courses in Brazil arose in decade 1960. It happened as an effect of economic changes, which involved the

productive sector starting from the reform of the industrial teaching. The conception of the Technological Higher Education in Brazil during the period 1960-1970 had as goal to serve the job market peculiarities in several regions of the country that made possible to these courses have different modalities and terms to serve business and industrial demands and changes. (TECHNOLOGISTS NACIOTINAL ASSOCIATION, 2010).

Searching a short history about the first Technological Higher Education courses in Brazil, we can realize that it has arisen in a spread manner among the country. The seed of this modality of education started on the “short courses” that got more delimited place from the endorsement of the Federal Law 5,540/68.

This law, in its articles 18 and 23 set the establishment of vocational courses with different terms and modalities in order to serve several realities of the job market. In the article 23, first paragraph, establishes that “short-term vocational courses will be organized to provide intermediate qualifications of high degree”. From this moment, explained Duch (2002), we can observe the expansion of the Technological Higher Education courses in the country.

The first experiences with deployment of the Technological Higher Education started in São Paulo. It was in 1970 when the stated of São Paulo setting up some courses at Centro Estadual de Educação Tecnológica de São Paulo (CEET), which later, it was named as “Centro Paula Souza”. It was the beginning of the Faculdades de Tecnologia do Estado (FATEC). The first two units were setting up in Sorocaba and São Paulo³.

In 1976 the Centro de Educação Tecnológica da Bahia (CENTEC) was setting up by the Bahia government that established the first Federal Institute for forming technologists and provide development to the Technological Education. Duch (2002) argued that among the objectives to creation of this higher education teaching modality was the rationalization of professional qualification to serve imposed demands to education by the development process that the country was going through.

During the decade 1990, the CEFETs expanded to 34 units among the country (DUCH, 2002, p.8). The author highlighted the importance about the Bases and Guidelines Law, in the chapter third which was developed to “Vocational and Technological Education” (Article 39-42), it gave a new boost to the courses variety offered not only to technological and vocational education but also to postgraduate modality.

³ The Centro Paula Souza manage 218 Escolas Técnicas Estaduais (Etecs) and 65 Faculdades de Tecnologia (Fatecs), that together have more than 283 thousand of students in their high school technical courses and high education technological courses, located in over 300 cities. The Etecs serve to 212 thousand of students from Technical Education, High School and Technical Integrated to High School, it has 137 technical courses to industrial, agricultural and services sectors, including qualification on e-learning courses, Adults and Young Education (EJA, in Portuguese) and technical specialization. By contrast, the Fatecs has more than 75 thousand of students enrolled on 72 courses in several areas of technological graduation, as construction industry, Mechanics, Informatics, IT, Tourism and alike. In addition to graduation, it offers postgraduate courses, technological updating and extension courses. (CENTRO PAULA SOUZA, 2016)

Recently, after sanction of the Federal Institutes of Education, Science and Technology Law and their recognizing as higher education institutions (Decree 6,095/2007 and subsequent legislation), the Technological Higher Education went through a new restructuring and expansion in the country⁴. The Education Census done in 2012 demonstrated the expansion of registrations number on these kind of courses. During the period 2011-2012 the number of students elevated 8.5%, meanwhile it was only 4.6% in the Bachelor courses and 0.8% in Bachelor courses to teaching certificate. Because this increase the Technological Courses represents 13.5% of registrations in higher education. (INEP, 2013)

In general, the Technological Higher Education courses have a workload between 1,600-2,400 hours that must be concluded in two or three years. As a rule, the humanistic subjects have a low workload comparing to the professionals disciplines. Concerning the Sociology teaching, after expansion of the technological courses in the country, it has gained new spheres.

In Technological Colleges of the state of São Paulo from 72 courses offered, the subject figures only in 3 curriculums (Logistics, Business Management and Tourism) and in other 22 courses it appears together to humanistic knowledge as “Society, Technology and Innovation”, “Society and Technology” or “Humanities” (Frame 1):

Frame 1: Curriculums Analyses – Higher Education Courses (Fatec)

Subject	Courses	Weekly Workload
Environmental Sociology	Environment and Water Resources	2 class hours
Organizational Sociology	Logistics; Business Management (Management Process)	2 class hours
Leisure and Tourism Sociology	Tourism Management	4 class hours
Society, Technology and Innovation	Land Transport; Informatics to Business; Computer Webs; Databases; Business Management (Management Process); Mechanical Manufacturing; Events; Biofuels.	2 class hours
Society, Innovation and Technology	Phonographic Production	2 class hours
Humanities	Mechanical – Projects; Production of Welding; Materials, Process and Electronical Components; Metallic Components; Ceramic Materials; Hydraulics and Environmental Sanitation; Construction Industry – Earth Moving and Paving; Construction Industry – Buildings.	2 class hours or 4 class hours

Source: Elaborate from CENTRO PAULA SOUZA. Matrizes Curriculares, 2016. Available on: <<http://www.centropaulasouza.sp.gov.br/cursos/fatec/>>. Access on Jan. 6th, 2016.

⁴ For more information, consult the Law 11,892 sanctioned in December 29th, 2008, that instituted the Federal Web of Vocational, Scientific and Technological Education, it created the Federal Institutes of Education, Science and Technology also give us other arrangements. In addition, the Decree 7,022/2009, which establishes organizational measures exceptionally to support the deployment of the Federal Web of Vocational, Scientific and Technological Education, created by the law 11,892 sanctioned in December 29th, 2008 that also give us other arrangements.

The courses Syllabus have been analyzed, specifically the component “Society and Technology”, which has as aim “reflect about the impacts of Information Technology in Contemporary Society” and it is present in the Higher Education course of Analysis and Systems Development. Among the contents to be worked are included:

Communication and Information – concepts and implications in the contemporary world; from massive culture to digital culture – new forms to socialization of the information and new communications challenges; Technology and Society – Human and social problems regarding to using of the information technology and the computing: human aspects of information safety and privacy, also economic and ethical aspects of computers application. (FATEC ITAPETININGA. Projeto Pedagógico de curso. 2010. Available on: <http://fatecitapetininga.edu.br/wp-content/uploads/2012/04/projeto_pedagogico_ads-2015.pdf>. Access on Jan. 8th, 2016).

Another curricular component listed in the areas of Sociology knowledge (including multidisciplinary), is the subject “Society, Technology and Innovation” that has two class hours of weekly workload and it is present in eight courses, among them the Technology on Business Management course. To illustrate it, follow the program contents:

The human knowledge or better understand. Science emergence and structuring. The moral and ethical. The liberty challenge. Ideology. Citizenship and politics. The technological civilization. Contemporary challenges. (FATEC BARUERI. Projeto pedagógico de curso. 2012. Available on: <http://www.fatecbarueri.edu.br/download/ppc_gestao_empresarial.pdf>. Access on Jan. 8th, 2016)

Therefore, the subject is so comprehensive and contemplate a humanistic formation with the reflection about the Technological impacts on the Contemporary Society. The inclusion of a subject that may be called as Sociology or Society and Technology can make huge formation gains to future technologists also could be worked in other courses and curriculums keeping the same concerns and aims that has mentioned above.

4 FINAL CONSIDERATIONS

In this paper, the aim was to analyze Sociology’s role as curricular component in Technological Higher Education Courses (CST, in Portuguese).

Its starting point was the inclusion of Sociology in the teaching curriculum and syllabus could represents a progress on the public politics of the vocational education in the country, since it allows for the development of the student’s intellectual autonomy and critical thinking

to perception of the multiples implications of relations that are established between society and technology. Furthermore, the sociological knowledge brings a substantial contribution on the analysis of work relations, in special to capitalist societies, as well as the globalization process, both questions have straight implications about the situation of the Professional and Technological Education. (OLIVEIRA, 2013).

Therefore, we believe the Sociology inclusion in the syllabus and curriculums is capable of opening new possibilities on the formation process, contextualizing to the knowledge of these professionals, in case of “technologists”, also it allows the opening to a whole formation them. Another aspect Sociology could contribute is about the discussion among the Society, Technology and Ethics. Indeed, according to Raizer and Meirelles (2011), these are the most common guiding theme (additionally, the previously mentioned: work and globalization) in following technical courses as well as technological higher education courses. Among the topics discussed are: Society and Technology, Science and Innovation, Technology and Environment, and Ethics.

These are the main challenges to be put on technological education. It seems to me that starting of this point there is a reference, a guiding theme to think about the curriculum issues of the Technological Higher Education.

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