**ACADEMIC EDUCATION IN GEOGRAPHY AND THE LABOR MARKET:**

**BRIEF ANALYSIS FROM THE BRAZILIAN REALITY[[1]](#footnote-1)**

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***Abstract:***

*This article aims to briefly present the reality of training in geography in the Brazilian territory. For this purpose, the article was divided into the following parts: (I) Introduction; (II) The horizons of geography training; (III) Geographer: bachelor's training; (IV) Geography Teacher: the degree course; and (V) Conclusion, with the Bibliographic References at the end. The article also discusses the characteristics of training and the difficulties related to the labor market in Brazil.*

***Keywords:***

*Education in Geography; Geographer; Geography Teacher; labor market, Brazil.*

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**I – Introduction**

Why study geography?

There are those who chose to study geography because they would like to be a teacher. Others to work on making decisions in field activities. There are those who have seen in geographic science the chance to study geopolitics, culture, literature and social issues on a national and international scale. There are also those who intended to teach the content of science, but also to understand the phenomena of nature. Knowing and explaining the world, since Geography was a more general reading of events on the planet, is also a motivation for taking a degree. They could be hypothetical stories, but they are real explanations authors of this short article.

In Brazil, when entering the university to study Geography, one must choose between two courses: degree with a teaching diploma [*licenciatura*], which enables them to be a primary and secondary school teacher in public and private schools in the country; or the bachelor's degree [*bacharelado]*, which legally makes him a geographer, working in companies and government agencies in the areas of research, planning and technical management. The use of the term *geographer*, for market purposes, is reserved for professionals who have a bachelor's degree and registration at the competent institution, but it is generally accepted by everyone who works in geographic science. Many students take both degrees and receive both degrees: *professor of geography* and *geographer*, as in the case of the Federal Rural University of Rio de Janeiro, located in Seropédica, Rio de Janeiro, Brazil.

This article aims to briefly present the reality of training in geography in the Brazilian territory. For this purpose, the article was divided into the following parts: (I) Introduction; (II) The horizons of geography training; (III) Geographer: bachelor's training; (IV) Geography Teacher: the degree course; and (V) Conclusion, with the Bibliographic References at the end. The article also discusses the characteristics of training and the difficulties related to the labor market in Brazil.

**II – The horizons of geography training**

Geography is a historically complex and challenging science, with diverse currents, readings and methodological perspectives. With characteristics of the humanities and exact sciences, learning geography at university has always been a great challenge, because it included studying issues of the physical structure of the earth (relief, climate, vegetation), but also human society (economic, political, social and cultural facts) . The idea of ​​Geography as “unity”, “a certain set of concepts”, “a finite collection”, an “exceptional science” (BUNGE, 1973) has already been debated and questioned. However, there is no doubt that geography is a challenging science!

Like any science, Geography always changes. From the approximation of Alexander von Humboldt's theory of the earth (Germany, 1769-1859) and the relationship between nature and history by Carl Ritter (Germany, 1779-1859), supposed fathers of modern geography (CAPEL, 2012 [1981]), to the institutionalization of geography in the nineteenth century, especially with the research of Friedrich Ratzel (Germany, 1904-1918) and Paul Vidal de La Blache (France, 1845-1918); from its traditional, quantitative, critical or humanist schools (MORAES, 2007 [1981]) to the current changes of globalization and the technical-scientific-informational environment (SANTOS, 2002 [1996]), complex technologies and expansion of digital humanities (SCHREIBMAN et al, 2004), many changes have taken place in geographic science. Geography has already served exclusively the most powerful States in the world while it was a boring subject taught in school (LACOSTE, 2014 [1976]), but it is also a science of social transformation (MOREIRA, 1982).

Today, geographers study a wide range of issues. Urban, economic, environmental planning; survey, tabulation and analysis of data for research; landscape studies and management of ecological problems; planning of tourist, cultural, industrial and commercial spaces; proposition of public policies and collective actions; teaching in the initial and advanced grades of the basic level; university research: these are all areas of activity for geographers. Its tools are also diverse: blackboard and chalk; advanced digital cartography, geographic information systems and remote sensing programs; word processors, data, information and spreadsheets; field notebooks, GPS devices, thermometers, measuring tapes and physical strength for outdoor activities; and many other technologies, instruments and tools in your daily life.

Thus, geography offers many challenges and opportunities for its future professionals, but entry into the labor market is also currently a difficulty. To start with, Brazil today has a very high rate of unemployment, reaching 14.7 million Brazilians, a record unemployment rate of 14.7% of the active population (STRICKLAND and FERNANDES, 2021). This is information collected from a secure data source: the Brazilian Institute of Geography and Statistics (IBGE, 2021). Finding a job in a country in deep economic crisis and during the covid-19 pandemic is not easy.

In the case of the Geographer, one of the challenges is the fact that his work has interfaces with other areas, such as environmental, cartographic and forestry engineering, as well as with economics, biology and geology. It is even possible to treat the performance of geographers and engineers as a good thermometer for the country's development: when the country is economically bad, the area also gets bad. With the current economic crisis and without exclusive jobs, employability has been low.

 In the case of the Geography Professor, the situation is not good either. In 2020, Brazil had 179,533 public and private Basic Education schools and had 47.3 million enrollments at this level of education (INEP, 2020). It shouldn't be difficult to find a job as a geography teacher in the country. But with the number of enrollments falling, crisis

private schools, deregulation of the profession and reduction of time and number of classes in the classroom, there is also greater difficulty for newly graduated teachers to find jobs.

 It is therefore necessary to be very trained. With our experience teaching Geography in undergraduate and graduate courses at the Federal Rural University of Rio de Janeiro (UFRRJ), we will present here the reality of education in Geography in Brazil.

**III – Geographer: bachelor's training**

On May 29, Brazil celebrates the “Geographer's Day”, date created in 1936, due to the foundation of the Brazilian Institute of Geography and Statistics – IBGE (at that time the “National Institute of Statistics”). However, the profession of geographer in Brazil is regulated by Law nº. 6664, of June 26, 1979 (BRASIL, 1979) and by Law no. 7399, of 04 and November 1985, which changes the wording of some provisions of Law no. 6664/1979 (BRASIL, 1985).

*“This legal framework for the profession is important, as it allows it to be on the list of regulated professions in the Brazilian labor market, with the geographer being an officially recognized profession” (MAGALHÃES et. al., 2020: 214).*

The law that regulates the geographer profession in Brazil empowers him to act in physical-geographic, biogeographic, anthropo-geographic and geo-economic reconnaissance, surveys, studies and research and those carried out in the general and special fields of Geography (BRASIL, 1979).

The general and special fields of Geography are defined as follows: delimitation and characterization of natural geographic regions and sub-regions and geoeconomic zones, for purposes of planning and physical-spatial organization; in solving on a national, regional or local scale, problems related to the country's natural resources; in the interpretation of the hydrological conditions of river basins; in geo-human zoning, with a view to general and regional planning; in market research and commercial exchange on a regional and inter-regional scale; in the ecological and ethological characterization of the geographic landscape and related problems; in the policy of settlement, internal migration, immigration and colonization of new regions or the revaluation of regions of old settlement; in the physical-cultural study of the geoeconomic sectors destined to production planning; in the structuring or restructuring of circulation systems; in the study and planning of the physical and geoeconomic bases of the nuclei urban and rural; in the use, development and preservation of natural resources; in the survey and mapping aimed at solving regional problems; in the administrative division of the Union, States, Territories and Municipalities. And, finally, to the organization of congresses, commissions, seminars, symposia and other types of meetings, destined to the study and dissemination of Geography (BRASIL, 1979).

To work as a geographer, the professional must be regulated by the Federal Council of Engineering and Agronomy and by the Regional Council of Engineering and Agronomy (CONFEA/CREA), a Federal Public Authority established by Decree No. 23.569, of December 11, 1933 (BRASIL, 1933), from his training as a bachelor in Geography. In this context, the role of the geographer in the labor market and in Brazilian society is notorious. The geographer is a professional with systemic training, which enables him to establish relationships between the different agents that act in space, whether from a physical-natural or human perspective (MAGALHÃES et. al., 2020).

However, in reality, the geographer in Brazil does not have prestige or full recognition of his training and professional performance. It loses space, or has no space, for professionals in the field of Engineering, for example, who dominate the market that could be exercised or shared with geographers. Other professional categories are within this “competition” or “dispute”, such as architects, biologists and meteorologists. It should also be noted that society lacks knowledge of the “geographer” profession, which sees it as synonymous with “geography teacher” and at best a “person who understands and makes maps” (SIGNORI and VERDUM, 2009).

Therefore, the trajectory of the geographer, considering his education from the University to the job market, is not so simple (GIL, 2009). The author points to this conclusion when analyzing the formation of the geographer at university and the subsequent performance in the labor market in Portugal. Although the analysis refers to Portugal, a European country, its reality may, in some situations, be similar to Brazil, since both countries have affective, academic and professional ties, working in the exchange and exchange of research and between researchers.

It is important to note that much of the difficulty or lack of a job market for geographers limits the training of students at the university, who opt for training as graduates (teachers) in Geography. Obviously, other situations, such as the requirement to comply with tougher disciplines in the exact sciences, such as mathematics and physics, keep students away from bachelor's training and, consequently, only opt for a licentiate degree when there are no such requirements in most of the courses.

This picture creates, then, a chasm between undergraduate and bachelor degree students, being much greater in the former. It should be added that this may be a reason for most universities to opt only for graduate training in Geography and not for both (in public universities, most train graduates, although some divide the training, that is, graduates and bachelors; while in private universities, training is exclusively for graduates). Finally, but without exhausting the discussion, most graduates do not act as such, and choose, or there are more opportunities, to act as geography teachers, which leads most of those who adopt a preference for bachelor's degrees to also attend training in degree, which gives you more time at the university.

It should be considered that the incipient role of geographers in the labor market in Brazil also has to do with the broader offer in the public service, especially in the federal sphere, which is still considered very small (SIGNORI and VERDUM, 2009). These authors point out that many vacancies in the public sector offered to geographers are exams and title competitions. In this case,

*“the geographer who wants to have comparative advantages or who does not want to be at a disadvantage in relation to candidates with other higher education qualifications must hold post-graduate, master's, doctoral, professional experience and experience in the public service (...). It is verified, in these cases, that the bachelor in geography is considered a professional with less knowledge and skills in relation to other professions” (SIGNORI and VERDUM, 2009: 145).*

As for the role of the geographer in the public sector, many are directed towards teaching in universities (which in most selection processes does not require a bachelor's degree), or in government institutions, such as in the agricultural sector, science and technology, energy, justice, urban management, environment, minerals, Public Ministry, government planning and management, territorial planning and management and transport.

Two recent situations, from the 21st century, have brought the geographer closer to the Market in the public or private sphere, which in this case expands offers in the private sector. The first one concerns the science and techniques of the Geographical Information System (GIS) and remote sensing. Created and developed by geographers, these techniques are widely used by a set of other professionais backgrounds, which work in mapping aimed at management and planning. A second situation refers to the opportunities to act in the environment, a broad and complex theme that encompasses countless variables in the human, social and natural sciences, where Geography finds an important interlocution.

Both situations mentioned above became an insertion bias for our students (from the Geography course, bachelor's degree, from the Federal Rural University of Rio de Janeiro) to carry out internships in public agencies or even definitive insertion in the market of work in the private sphere. In a first example, we recently sent students to a paid internship at the Public Ministry of the State of Rio de Janeiro to work in the area of ​​“Remote Sensing and Spatial Analysis” with the following themes: i) Detection of land use changes; characterization of vegetation - coverage and quality indices; ii) Water quality analysis from satellite images; iii) Analysis of topographic characteristics of terrains; Mapping of erosive processes and geological hazards; iv) Air quality analysis from satellite images. A second example concerns the professional performance of former students of our course as a drone pilot and geoprocessing and aerial survey analyst.

Finally, whether in GIS, remote sensing or the environment, the “geographer” profession is legally qualified. It is up to the sectors of the public and private spheres to recognize and absorb bachelors in Geography, a fact that has already occurred, even if it does not happen at the pace desired by the professional category of geographers. It is up to this category to join forces to fight and strive for a more effective insertion of the “geographer” profession with public and, above all, private bodies in the professional recognition of the geographer in the labor market.

**IV – Geography Teacher: the degree course**

The student of the Degree in Geography, who intends to be a primary school teacher, attends curricular components of general education in geographic science. These are disciplines related to Natural Sciences (Physical Geography) and Human Sciences (Human Geography), where theoretical-methodological bases are based that allow for knowledge beyond what is necessary for teaching (CAMPOS, 2018).

In order to discuss the human relations on the surface that build the geographic space, and suffering interference from it - originating territories, places -, but also the impacts of their actions on the environment and society, the Geography student takes a stand. faced with a complex picture. Therefore, it needs to deepen the knowledge about society advancing in disciplines that are in contact with Sociology, Economics, Philosophy, Law, and about the environment in disciplines on Geomorphology, Geology, Climatology, Biology, Pedology, which implies a very broad and universal formation.

In order to account for this diversity of knowledge, we have the world as our research laboratory, requiring external activities during their training that put them in contact with reality, which we call fieldwork. In these activities, students spend days in contact with new cultures and landscapes, where they need to adapt in order to absorb as much information as possible. They need to learn how to behave and dress properly, not only to gain the confidence of residents, but also to avoid having difficulties in adverse climates and environments. All this to get to know the transformations of the landscapes and be able to develop their investigation.

During training, there is also a set of pedagogical subjects that aim to prepare the future teacher for the challenges of teaching: on how to deal with people, with the diversity and adversities found in a school environment. For Sánchez Gamboa, "the phenomenon of education demands to be considered in its relations with the economic, social and cultural" (2012, p. 128), and to understand this relationship, students have pedagogical subjects such as Education Policy and Organization, that makes it possible to understand the legal, institutional and organizational aspects of the educational process; Education and Ethnic-Racial Relations at School, which aims to reflect on the challenges of articulation between equity, equality and differences between the black and indigenous movements in basic education; and Brazilian Sign Language – LIBRAS as part of a process of inclusion of deaf students in the teaching-learning process.

There are also internship courses, which in the case of the Federal Rural University of Rio de Janeiro, account for 100 hours, totaling 400 hours of observation at the end of graduation. According to Pimenta and Lima (2010, p. 45), “the internship, contrary to what was advocated, is not a practical activity, but a theoretical instrument that instrumentalizes the teaching praxis”. Thus, intern students should not teach, but accompany teachers in the classroom. There are two full years of follow-up, one year in elementary school and one year in high school. In addition to this mandatory experience, students can apply for the Institutional Scholarship Program for Initiation to Teaching (PIBID).

PIBID is a program financed by the Coordination for the Improvement of Higher Education – CAPES, with scholarships for undergraduate students, basic network teachers and university professors, as well as financial assistance for implementing the work plan proposals in the chosen theme. This is a project promoted by the federal government to bring scholarship holders-students – students linked to undergraduate courses – closer to teaching practice in partner schools, in this case, located in the city of Seropédica, where UFRRJ is located. The intent is to improve the pedagogical training of undergraduates, but also the requalification of public school teachers through constant contact with the universe of academia and, notably, in the improvement of teaching practiced in the context of public elementary education (OLIVEIRA, ROCHA, 2016). Therefore, PIBID also involves university professors and links higher education, the school and the state and municipal education systems.

The undergraduate student cycle ends with the presentation of the monographic work. The idea is to value research also in teacher education, so that they know the scientific method and be able to conduct autonomous research, which is a very recent movement (ANDRÉ, 2005). This need to train research teachers (STENHOUSE, 1975) who, from the daily experience with the difficulties encountered at school, can carry out action research and produce knowledge to overcome such difficulties (SENNA, 2003) improving the teaching of Geography.

**V – Conclusion**

Brazil is a country with serious environmental, social, economic and political problems. With a young democracy established just over thirty years after a violent and harmful military regime, today we live authoritarian forms of public management that erode the foundations of democracy and destroy free thinking and the different ways of doing research, teaching and learning ( see: CAMPOS, 2020). After a period of greater economic growth and important participation in the world circuit of products and capital, today we have unfortunately returned to a colonial way of selling our wealth, with the destruction of our prosperous industrial production and the irrational privatization of important water supply organizations, light and oil. It is even being privatized as a public company that delivers letters and products in the national territory. At the same time, massive investment in agricultural production occurs with the release of the use of pesticides and the expansion of the sale of mineral products that destroy the environment. Regarding the environment, the scenario is worse: burning in the Amazon rainforest, opening of tourism spaces in protected areas, greater acceptance of pesticides, weakening of environmental agencies, attack on laws to protect indigenous and quilombola lands (MELLO-THÉRY, 2019) comprise the series of measures that place Brazil in the spotlight in the ranking of the greatest destroyers of the environment. The covid-19 pandemic caused the death of more than half a million Brazilians and revealed our vulnerability (FARIAS, 2020) and our sad reality. Defenders of unlimited development promote the idea of ​​nature as an obstacle to progress and promote air pollution, the construction of roads in green areas, global warming, aggressive pesticides and the dissolution of indigenous reserves (OLIVEIRA, 2019).

Not everyone can see the danger of the moment. Not everyone can see the danger of the moment. We live in an era where scientific knowledge competes with false, absurd and perverse information. The fake news hides the cruelty of the moment and has found a strong ally: the anti-science conspiracy, which makes the population believe that vaccines have mind-controlling chips and that the earth is flat. The flat-earther's medieval conception clashes with everything geographers learn in graduation: planet and universe formation, coordinate system, atmospheric phenomena, world trade routes, geopolitics and everything else is ignored by followers of this conspiracy.

Therefore, it is important to say that Brazilian geography professors and geographers will have a lot of work to do. Currently, training in geography means studying geopolitics, culture and social issues and understanding the phenomena of nature, but it is also an urgent civilizational mission.

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