

Teacher training: dropout from undergraduate courses at a federal institute in Brazil

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Abstract. This study aims to present the dropout rates in undergraduate teaching degree courses at the Federal Institute of Education, Science, and Technology of São Paulo (IFSP) for in-classroom courses and distance learning. The IFSP is a public higher education institution subsidized by the Brazilian federal government. It is an important institution for the qualification of teachers and presents expressive dropout rates. This study is part of exploratory and quantitative research based on data analysis from the Nilo Peçanha Platform (PNP) from 2019 to 2022. We concluded that dropout rates were lower in 2019 and considerably increased in 2022, possibly due to the Covid-19 pandemic period. We suggest that further research should be developed to better understand these dropout rates to propose institutional actions.

Keywords. School Dropout, Degrees, Teacher Training.

1. Introduction

This study aims to present the dropout rates in undergraduate teaching degree courses at the Federal Institute of Education, Science, and Technology of São Paulo (IFSP) by analyzing data from the Nilo Peçanha Platform (PNP) from 2019 to 2022 and considering both in-classroom course and distance learning [1]. The IFSP is a public and free tuition technical and higher education institution subsidized by the Brazilian federal government. It is an important institution for the qualification of teachers and presents expressive dropout rates.

The National Education Guidelines and Framework Law (Lei de Diretrizes e Bases da Educação – LDB) No. 9394, approved on 20 December 1996, Article 62, establishes the undergraduate teaching degree as a minimum requirement for teaching in basic education [2]. The National Education Plan (Plano Nacional de Educação - PNE) 2014-2024 presents 20 goals and strategies for the development of Brazilian education. Goal number 15 seeks to ensure that all basic education teachers have a higher level of education obtained from an undergraduate teaching degree in the field of study in which they work [3].

Since 1990, the Ministry of Education (MEC) has already been concerned about the high number of dropouts in public institutions. In 1995, the Special Study Committee on Dropout in Brazilian Public Universities was established to identify the general

and specific causes of dropout and suggest some strategies to reduce student dropout rates [4].

For Silva Filho et al. [5 p642], “Student dropout is an international problem that affects the educational systems. Students who start but do not complete their courses cause social, academic, and economic waste. In the public sector, public resources are invested without return. In the private sector, it is an important loss of revenue. In both cases, dropout is a source of idleness for teachers, employees, equipment, and physical space.”

Dore and Lüscher [6] stated that dropout can refer to student retention in school, student departure from the institution, student departure from the educational system, school dropout and return, or non-completion of a certain level of education.

In 2011, an audit conducted by the Federal Court of Accounts (Tribunal de Contas da União - TCU) highlighted that IFSP started in 2010 a project to reduce dropout. In 2014, the Secretariat of Professional and Technological Education of the Ministry of Education (SETEC/MEC) published a document to guide the Federal Network of Professional, Scientific, and Technological Education (Federal Network) to overcome student dropout and retention.

2. A brief history of IFSP and undergraduate teaching degree courses

The IFSP originated from the Schools for Apprentice Craftsmen created in 1909 for disadvantaged social classes to train workers and foremen for trade [8]. Over the years, this institution has become an autarchy and has undergone several changes due to public policies for technical and vocational education and training. The major expansion phases occurred between 2005 and 2007 in which Decree No. 6095, approved on 24 April 2007, established the Federal Institutes of Education, Science, and Technology within the Federal Network scope [9].

Decrees No. 5224 and 5225, approved on 1 October 2004, consolidated the undergraduate courses in the Federal Institutes by considering the institutes as higher education institutions and enabling undergraduate courses in their organizational structure [10]. Later, the undergraduate courses were reformulated to meet changes in legislation [8]. Resolution No. 2, approved on 20 December 2019 and corrected on 10 February 2020, defined the National Curriculum Guidelines for Initial and Continuing Teacher Training for Basic Education and established that higher education courses must have total hours of instruction at least 3,200 hours with a minimum time of four years.

The IFSP offers undergraduate and distance learning degree courses, including undergraduate teaching degree programs. It is part of the Federal Network of Professional, Scientific, and Technological Education, which includes 38 Federal Institutes, two Federal Technological Education Centers, and other technical schools and universities throughout Brazil. The undergraduate teaching degree programs at IFSP include Pedagogy Biology, Physics, Geography, Mathematics, Chemistry, and Languages and Literature. These programs are evaluated by the National System of Higher Education Evaluation (SINAES), which includes the National Student Tertiary Education Exam (ENADE). In recent surveys, IFSP received an overall score of 4 out of 5.

3. Research question

In this study, the research question was: “How many students drop out from undergraduate teaching degree courses at IFSP?”

To answer this research question, we carried out a literature review on dropout and permanence in higher education institutions considering in-classroom courses and distance learning (EaD) modalities in Brazil.

4. Methodology

This study is part of exploratory and quantitative research. First, qualitative research analyzed the legal and normative scope of undergraduate teaching

degree courses in Brazil and IFSP together with the theoretical field that addresses teacher training. According to Gil [11 p41], “exploratory research aims to provide greater familiarity with the problem, in order to make it more explicit or to build hypotheses.”

Documentary analysis was used to find studies that deal with dropout rates, legislation, regulations, and standards for undergraduate teaching degree courses in Brazil and IFSP. Sá-Silva, Almeida, and Guindani [12] stated that documentary research should be valued since it allows the use of methods and techniques as a procedure for understanding and analyzing different documents.

Data collection and analysis were based on Lüdke and André [13] and Gatti [14]. Different perspectives of conceptual approaches to dropout in higher education school were discussed. Quantitative data for dropout rates in undergraduate teaching degree courses at IFSP were obtained through the Nilo Peçanha Platform (PNP) from 2019 to 2022 [1].

5. Results

Table 1 presents the dropout data for undergraduate teaching degree courses at IFSP.

Tab. 1 - Dropout rates for undergraduate teaching degree courses at IFSP

IFSP degree courses	2019	2020	2021	2022
All degree courses	15.6%	11.4%	8.2%	27.54%
Physics	21.8%	12.2%	8.6%	37.3%
Geography	12%	1.5%	3.0%	8.3%
Biological Sciences	10.4%	11.0%	8.9%	21.9%
Mathematics	17.2%	15.6%	8.51%	31.3%
Chemistry	18.3%	7.2%	10.8%	31.6%
Languages and Literature	13.0%	14%	11.6%	23.2%
Portuguese Language	9.6%	5.1%	5.4%	15.3%
Pedagogy	9.9%	9.9%	7.2%	26.7%
Special Program for Pedagogical Teacher Training	18.3%	25.5%	27.6%	28.2%
Degree in Professional, Scientific, and Technological Education	-	11.9%	11.8%	8.9%
Foreign Languages	-	-	-	2.5%

We can observe that Physics, Chemistry, Mathematics, Languages and Literature, and Geography presented the highest dropout rates in 2019. The first three courses with the highest dropout rates in this period were those that justified the creation of undergraduate degree courses in the Federal Network.

In 2017, the IFSP Permanence and Success Subcommittees were created to systematize the subsidies for planning and monitoring actions for the students continuation and achievement rates, collaborating with the Institutional Strategic Plan to address retention and dropout [15].

These subcommittees did not present the work developed, but we can infer that the actions may have contributed to reducing dropout due to the lower dropout rates achieved in 2021. This did not occur in the Special Program for Pedagogical Teacher Training since it presented a lower rate in 2017 (12.8%) and reached 28.2% in 2022. The Degree in Professional, Scientific, and Technological Education and Foreign Languages only presented data from 2020 and 2022, respectively.

The PPC [16] considered the study reported by Kussuda [17] in which the reasons for dropping out of the Physics course were divided into four categories: economic and professional, psychological, didactic, and organizational. One of the dropout factors identified at IFSP was the time required to complete the course, which was 10 semesters on average, as students were unable to complete it on time.

We carried out a literature review to better understand possible reasons for dropping out at IFSP. The research was conducted using Google Scholar as a database and performed on September 3, 2023. We considered “dropout” AND “ifsp” and “teacher training” as the keywords. The search returned about 230 results.

Faustino-Ferber and Martins [18] studied dropouts Pedagogy course at IFSP on the Boituva campus. They concluded that the number of students in the distance learning modality increased every year while the number of students in-classroom courses decreased. The annual dropout rate at IFSP decreased. However, at a national level, this rate continued to grow. The authors suggested that new research should be carried out to better understand the real reasons for dropouts in Pedagogy course.

Oliveira and Silva [19] presented a literature review characterizing the works that address the dropout in Physics courses. They listed possible causes and ways to minimize dropout, highlighting the institutional actions. However, they concluded that there is a lack of studies investigating how these actions can reduce student dropout in Physics courses.

Castilho [20] identified that the Student Assistance Program (PAE) has helped students to complete the

courses. However, a high number of students did not enroll in this program, presenting a higher percentage of dropouts than those who are in the program. The reasons why students did not enroll in the program can be the inefficiency in disseminating the program, specific access policies, early dropout, naturalization of needs, alienation of knowledge for the appropriation and objectification of goods and services, and personal responsibility for structural problems.

Silveira [21] aimed to identify the variables associated with student dropout to propose actions to overcome these difficulties. The author showed that the results were not satisfactory despite the different institutional actions performed to understand the reasons for dropouts. The IFSP still does not have a systematization capable of understanding the dropout determining factors so that it can intervene. In addition, the author stated that dropout needs to be treated as an institutional management problem so the leaders can guide policies to address dropout.

Mendonça [22] studied the applicability of the Student Assistance Program, which is guaranteed by the National Student Assistance Program (PNAES) created by the Federal Government in 2010, at IFSP on the Cubatão campus. The author concluded that the program met the Federal Constitution, which obliges States to provide free educational institutions. For the author, the PNAES assists in the right of access and students continuation who may be in a social vulnerability.

Daros [23] analyzed the strategies proposed and implemented by the Student Assistance Program to reduce dropout at IFSP. The main reasons for school dropout were work, learning difficulties, and students' lack of interest in the courses. The author concluded that the student assistance policy adopted at the IFSP has been effective in reducing dropout.

For all degrees, except the Special Program for Pedagogical Teacher Training, the dropout rates decreased. The Special Program for Pedagogical Teacher Training presents a different audience compared to other degrees as it is offered to students who already have a degree and are interested in obtaining another one, possibly to act as a teacher of a specific course. The devaluation of teachers and the low salaries for this career can be the reasons for the dropouts that occurred in this course.

In 2022, the dropout rate increased in all courses, except for the Degree in Professional, Scientific, and Technological Education and Foreign Languages. The Foreign Languages only presented data from 2022, possibly a new course. This increase in dropouts may be due to post-pandemic and social and economic problems. We also identified that only the Pedagogy and the Special Program for Pedagogical Teacher Training offer distance learning degree courses by the institution.

Tinto [24,25] presented a theoretical model in which

dropping out of college can be seen as a longitudinal process. From the student entrance, we should consider the student's expectations, various individual characteristics, previous experiences, commitments, and satisfactions and disappointments with that environment. Integration with the academic and social environment will determine the level of commitment.

Based on data from the 2019 Higher Education Census [26], there are still many challenges to be addressed by higher education institutions in Brazil, such as innovative course models with hybrid modality since post-pandemic education need to break the traditional models due to the global experience of online learning during the Covid-19 pandemic. Further research should be developed to better understand the reasons for dropouts in undergraduate teaching degree courses to help institutional management reduce them.

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