

Student dropout in Integrated High School at IFTO, Dianópolis: a case study¹

Evasão estudantil no Ensino Médio Integrado no IFTO, Dianópolis: um estudo de caso

Abandono estudantil en la Escuela Secundaria Integrada del IFTO, Dianópolis: un estudio de caso

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Abstract: Our objective is to present the reasons for dropout in Integrated High School courses in Agriculture and Livestock and Computer Technician, at the Federal Institute of Tocantins, Dianópolis campus, from 2018 to 2022. The theoretical framework is according to Dore and Lüscher (2011), Figueiredo and Salles (2017), Fornari (2010), Parente (2019) and Ramos (2017). A qualitative and quantitative study was carried out, with the application of an online questionnaire and document analysis. 152 dropouts were identified from 2018 to 2020. 59 students (38.8%) participated in the study. The results show that the dropout profile is mostly male and mixed-race; 39.49% did not receive a scholarship or other aid during the course. The difficulties mentioned refer to subjects and a lack of support from teachers and teaching staff regarding learning difficulties. It was found that 28.82% of dropouts remain outside the educational system, potentially causing economic and social harm.

Keywords: Integrated High School; School dropout; Youth; Federal Institute; Tocantins; Technological Vocational Education.

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Resumo: O artigo objetiva apresentar os motivos da evasão em cursos de Ensino Médio Integrado em Agropecuária e Informática, no Instituto Federal do Tocantins, *campus* Dianópolis, de 2018 a 2022. Tendo como referencial teórico Dore e Lüscher (2011), Figueiredo e Salles (2017), Fornari (2010), Parente (2019) e Ramos (2017), realizou-se um estudo de natureza qualitativa e quantitativa, com aplicação de questionário *on-line* e análise documental. Verificaram-se 152 pessoas evadidas de 2018 a 2020. Neste contexto, ao todo participaram da pesquisa 59 estudantes (38,8%). Os resultados mostram que o perfil do evadido é em maioria composto por pessoas do sexo masculino e de cor parda; 39,49% não receberam bolsa ou auxílio durante o curso. Entre as dificuldades mencionadas, referem-se a matérias e falta de apoio dos professores e equipe pedagógica em relação às dificuldades de aprendizagem. Constatou-se que 28,82% dos evadidos permanecem fora do sistema educacional, afetando-os econômica e socialmente.

Palavras-chave: Ensino Médio Integrado; Evasão escolar; Juventudes; Instituto Federal; Tocantins; Educação Profissional Tecnológica.

Resumen: Este artículo tiene como objetivo presentar las razones de las tasas de deserción en los cursos de secundaria integrados de agricultura e informática, en el Instituto Federal de Tocantins, *campus* Dianópolis, de 2018 a 2022. El marco teórico es de acuerdo con Dore y Lüscher (2011), Figueiredo y Salles (2017), Fornari (2010), Parente (2019) y Ramos (2017). Se realizó un estudio cualitativo y cuantitativo, con la aplicación de un cuestionario en línea y análisis de documentos. Se identificaron 152 desertores de 2018 a 2020. 59 estudiantes (38,8%) participaron en la investigación. Los resultados muestran que el perfil de deserción es mayoritariamente masculino y pardo; el 39,49% no recibió beca o ayuda durante el curso. Las dificultades mencionadas se refieren a las asignaturas y a la falta de apoyo de los profesores y el personal docente con respecto a las dificultades de aprendizaje. Se encontró que el 28,82% de los desertores escolares permanecen fuera del sistema educativo, generando potencialmente daños económicos y sociales.

Palabras clave: Escuela Secundaria Integrada; Abandono estudiantil; Juventud; Instituto Federal; Tocantins; Educación Profesional Tecnológica.

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Introduction

This article aims to present the results of a research project investigating the reasons for dropout rates in Integrated High School courses in Technical Course in Agriculture and Livestock and Computer Technician at the Federal Institute of Tocantins (IFTO), Dianópolis *campus*, from 2018 to 2022. It is part of a master's research organized from the understanding of education as a process involving different elements, such as teaching and human interaction through the family, social, cultural, and school systems (Brazil, 1996). In this context, education is understood as a possibility for the formation of individuals from different realities, considering the dimensions of the Brazilian territory and its value as a social good for intervention in the world. (Freire, 1996; Ramos, 2017).

Regarding the challenges in education, we clarify that this research focuses on school dropout as a recurring phenomenon in different educational systems in Brazil. According to the United Nations Children's Fund (UNICEF, 2012, p. 12), both the causes and consequences of this issue are intrinsically linked to “[...] social, cultural, political, economic and other conditions. This is a complex phenomenon and requires commitment from everyone in the search for solutions that guarantee access, retention and academic success.”

In this context, the Federal Institutes (IFs), in their dialogical and socially-oriented conception, present themselves with the perspective of expanding and promoting education at various levels for people of diverse backgrounds. Law No. 11,892/2008, enabled the 38 IFs expanded their units to the interior of the states and are present in all state capitals. In total, the IFs comprise 596 units, 8,060 courses, and more than 829,000 enrolled students, according to data from the Nilo Peçanha Platform. (2022).

Given the expansion of the Federal Institutes, one of the persistent challenges is school dropout, which has been frequently observed nationwide, as evidenced by published studies, such as those by authors Figueiredo and Salles (2017), Kiessling, Cruz and Almeida (2021), Silva, Costa and Anjos (2021) and Tavares and Passone (2023), who confirm the importance of the debate presented here at different levels of education in the Federal Institutes.

Regarding federal Secondary Technical Education, the dropout rate is 13% nationwide (Suap IFTO, 2019). In the North region, the dropout rate for the same level of education was 12.4%, with the state of Tocantins showing a 10.9% dropout rate and the IFTO - Dianópolis *campus* showed 7.3%, considering the year of 2019. It was observed that in the following year, 2020, there was a slight reduction in dropout rates nationally, which remained at 10.4%. On the other hand, when observing the North region, the numbers rose to 12.7%, and in Tocantins, it remained stable at 10.9% (Nilo Peçanha Platform, 2022). At the IFTO - Dianópolis *campus*, the dropout rate in 2020 was 8.1%, according to data from Nilo Peçanha PlatPform (2022). It is worth noting that, although the dropout rates at IFTO - Dianópolis are below the national and state averages, the results may be an indication for attention within the scope of this research, constituting a driving force for investigation.

It is worth mentioning that no studies were found that addressed the topic of dropout in Dianópolis and, in IFTO, only one research focused on student dropout, which can justify the relevance of this study.

Given the problematized context, this article follows the following organization: introduction, conceptual framework, methodological approach, context and *locus* of the research, results and analysis, and final considerations.

Conceptual framework

Some scholars suggest that there are variations in the understanding and concepts of the term "dropout" within the scope of vocational and technological education, encompassing various levels of education (Silveira, 2017), therefore it is important to make some considerations regarding our research subject.

The first reflection refers to dropping out of an enrollment, which does not always represent exclusion from educational systems, as the student may "[...] continue their studies at another institution, level of education or modality, or even in another course" (Parente, 2019, p. 50). Dropping out occurs when the student fails to fulfill the commitment to remain in school, with recurring absences exceeding 25%. The author also differentiates dropout from exclusion, highlighting that the latter implies the institution's responsibility for not having guaranteed the necessary mechanisms and conditions for the student's inclusion. She further emphasizes that school dropout can occur in various ways, such as student retention/repetition, leaving the institution, leaving the education system, not completing a certain level of education, dropping out of school and later returning, among others. (Parente, 2019).

In this sense, the aforementioned author, when researching within the scope of IFTO, indicates that dropout can occur both through repetition and by interrupting the course without completion, "[...] this happens in the form of dismissal, transfer or withdrawal, negatively impacting the institutions" (Parente, 2019, p. 49).

Another concept used among scholars refers to the types of dropout, one of which is "course dropout," where the student chooses to change courses due to factors such as lack of identification with the chosen course, low employability prospects after graduation, personal and emotional issues, learning difficulties, inadequate teaching and learning environment, among other factors highlighted in the state-of-the-art review on dropout conducted by Lobo. (2012).

Silva (2016) further suggests that the structure of the educational system should be rethought in order to face and minimize the problem of school dropout. Lack of dialogue and rigidity in education are factors that contribute to low student performance and consequent dropouts from the educational system. Therefore, it is necessary to observe the specificity of this research, focus which falls within:

Technical vocational education at the secondary level [that] has experienced a widespread growth in the number of available places in recent years; however, this process has also been accompanied by a well-known problem – the phenomenon of school dropout. In this sense, it is believed that it is necessary to understand the elements that contribute to the persistence of this problem; because understanding the problem is the best way to devise strategies to address dropout rates. (Rosa; Aquino, 2019, p. 1).

Given its case study nature, this study considers the concept outlined by Marques et al. (2019), who explain that school dropout is directly linked to the educational institution and each educational context. Therefore, data from school systems should not be generalized without an in-depth study of their causes and consequences.

Figueiredo and Salles (2017) point to factors or categories that explain school dropout, namely: gaps in course choice, pedagogical and school factors, personal difficulties, peer influence, opportunities, institutional and/or governmental disinterest. For Dore and Lüscher (2011), school dropout should be considered from the perspective of the individual, the school, or the education system. Shirasu and Arraes (2015) find that disinterest in studies and grade repetition can promote dropout. The researchers indicate the need for collaborative work between school and family to address this challenge.

Abramovay and Castro (2003) analyzed the reasons for school dropout in high school and identified that the main problem lies in students' disinterest in school activities. They also mention the following as individual factors: work situations, moving to a different neighborhood or city, fatigue, demotivation, pregnancy, illness, and lack of money.

Figueiredo and Salles (2017) present a differentiation of dropout, identifying: 1) course dropout; 2) institutional dropout; and 3) system dropout. For this research, students who appear with the terms "abandonment, withdrawal, and transfer" in the Integrated Academic Management System (Siga-Edu/IFTO) are considered "dropout students". It is worth mentioning that, from January 2023, IFTO began using the Unified Administration System (Suap).

There are few studies on dropout rates from the students' perspective. The studies by Evangelista (2020) and Figueiredo and Salles (2017) offer this perspective.

The methodological approach

In order to conduct a reliable survey and analysis of results, elements of social reality were examined (Minayo; Sanches, 1993), using a questionnaire in the Google Forms tool, to approach a broader analysis of the reality in question. Thus, the research aimed to develop a descriptive and exploratory qualitative study, through a case study on school dropout in the two Integrated High School courses – Technical Course in Agriculture and Livestock and Computer Technician – at IFTO - Dianópolis *campus*, considering the context of face-to-face teaching.

The main aspect considered in choosing the methodological procedures was qualitative research, which focuses on values and beliefs, habits and opinions (Minayo; Sanches, 1993). Although the approaches present different perspectives, when used together, they can contribute to a broader understanding of the present study, taking as a reference that:

[...] qualitative research works with the universe of meanings, motives, aspirations, beliefs, values, and attitudes, which corresponds to a deeper space of relationships, processes, and phenomena that cannot be reduced to the operationalization of variables. (Minayo, 2001, p. 14).

Thus, the results obtained from qualitative research can generate rich and descriptive data, which promote sensitivity (Minayo, 2001), allowing for the analysis of human expressions present in relationships, representations, and institutions, thus constituting a relevant approach to the question proposed in this investigation. Furthermore, a descriptive methodology was used, based on Gil (2019), as it seeks to describe the characteristics of a given population, phenomenon, or field of interest using standardized data collection techniques.

This study takes the form of a case study, as it presents itself as a social investigation conducted through “[...] a combination of observation of facts with careful inquiry into the particular problem, in addition to research in documentary sources” (Diniz, 1999, p. 46), with the aim of obtaining data that can support a subsequent professional intervention. This purpose is justified considering that this research is linked to the Professional Master's Program in Educational Management Training, and the completion of this program requires the development of an intervention project.

Having said that, it is also worth pointing out that the case study is an academic approach that allows for a combination of techniques, including the systematization of documents, the creation of forms, and observation of the object of study. To achieve a detailed investigation with in-depth analysis, the case study used instruments such as: *online* questionnaires and documentary research in primary sources available on government and institutional websites.

The search was conducted using sources from the Brazilian Institute of Geography and Statistics (IBGE), particularly the *School Census*; the Ministry of Education (MEC), the National Institute of Educational Studies and Research Anísio Teixeira (Inep), especially the *Open Data – Educational Indicators*; the Nilo Peçanha Platform and the National Information System for Professional and Technological Education. Regarding IFTO, the Academic Management System (Siga-Edu) and Suap were used, covering the period from 2019 to 2021.

Furthermore, an online questionnaire with 28 questions (open and closed) was used, which was answered by students who had dropped out. The questionnaire used was based on Evangelista (2020). It is believed that the online questionnaire allows for a larger sample and reduces participant inhibition, as it is anonymous. Based on data from Siga-Edu/IFTO (2022), 74 former students of the Computer Technician course and 78 from the Technical Course in Agriculture and Livestock who had dropped out of the system between 2018 and 2020 were invited to participate in the study through telephone, email, and WhatsApp contact.

Subsequently, the questionnaire was sent to volunteer students, who signed the Free and Informed Consent Term, or, for those under 18 years of age, who presented a parent/guardian signature on the Informed Assent Form. Thus, among the 152 dropout students, 59 respondents were from the aforementioned courses (38.8% of dropouts), with 23 students from the Computer Technician course (39%) and 36 from the Technical Course in Agriculture and Livestock (61%). The responses were quantified.

It is important to mention that data collection from dropout students occurred between April and May 2023, corresponding to the period of the Covid-19 pandemic. In this sense, it is necessary to cite that the need for social distancing culminated in remote and hybrid learning. The public health context experienced by the population, combined with the prevailing teaching modality during this period, possibly had a significant impact on the present study.

Context and *locus* of the research

IFTO is one of the seven Federal Institutes located in the Northern region of the country and is present in 11 municipalities in the state of Tocantins, including the Dianópolis *campus*. The municipality of Dianópolis has a population of 22,704 inhabitants (IBGE, 2021) and is located 346 kilometers from the capital of the state of Tocantins, Palmas.

In a historical background, the IFTO campus in Dianópolis has its origins in the Instituto de Menores (Institute for Minors), founded in 1953 as a boarding school exclusively for boys between 8 and 18 years old. This institution was linked to the state government and was maintained with resources from parliamentary amendments from the Goiás deputies' caucus in the Federal Chamber. After the closure of its activities in December 2012, the physical structure was transferred to IFTO, undergoing adaptations to house the Dianópolis *campus*, according to data from the official IFTO website.

Figure 1 – Highlighted location of the municipality of Dianópolis, Tocantins.



Source: Wikipédia (2023).

Currently, the *campus* has a large area with classrooms and laboratories, offering two integrated high school courses (Computer Technician and Agriculture and Livestock), three undergraduate courses (Bachelor of Education in Computer Science, Bachelor of Education in Biological Sciences, and Bachelor in Agronomic Engineering), and a postgraduate specialization course in Management and Technology of Agricultural Production.

Regarding students in Integrated High School courses, a total of 433 students are enrolled (Suap), with 52.42% female, 46.88% male, and 0.69% undeclared. Concerning race/color, 58.89% self-identify as mixed-race.

Regarding place of residence, 66.51% reside in Dianópolis, and the remainder come from municipalities in the region. Concerning socioeconomic conditions, data from Siga-Edu/IFTO shows that 50.12% of students have a family income of up to 0.5 minimum wages; 24.25% live with a family income between 0.5 and one minimum wage per month; and the rest have an income above one minimum monthly wage. This scenario represents the working class, corroborating the social function of the Federal Institutes established in official documents (Brazil, 2008).

Results and analysis

Among the 59 respondents, 36 former students were from the Agriculture and Livestock technical course and 23 from the Computer Technician course. A total of 30 (50.1%) students were male, 25 (42.3%) were female, two (3.3%) were non-binary, and two (3.3%) did not declare their gender.

Regarding their race/color, 36 (61%) respondents self-identified as mixed-race, 12 (20.3%) identified as white, and 11 (18.7%) as black. None of them identified as Asian/Oriental (yellow) or indigenous descendant. It is important to emphasize that Brazil is a country marked by racial diversity and the complexity of its history; identifying as mixed-race can encompass a wide range of ethnic, social, and cultural characteristics.

It is noted that 41 (69.5%) respondents did not receive any type of financial subsidy for their stay at the institution, while 18 (30.5%) stated that they had received financial aid. It is observed that there is a policy in the Federal Institutes that allows for the provision of student assistance through financial resources, which are transferred through a selection process based on social vulnerability, and does not cover all enrolled students.

Of the participants, four (6.7%) dropped out in 2018; 14 (23.7%) in 2019; 18 (30.5%) in 2020; 14 (23.7%) in 2021; and nine (15.4%) in 2022. The majority dropped out in their first year, totaling 29 students (49.2%). In their second year, 24 (40.7%) dropped out, and in their third year, six (10.1%). The data are consistent with other research, such as that of Evangelista, Cruz and Almeida (2022) and that of Shirasu and Arraes (2015), which found higher dropout rates among first-year students. Furthermore, entering high school can also present students with a series of new challenges, such as changing to a new educational institution and encountering different subjects that combine technical and human development. It can be said that, for many, dealing with the transition from adolescence to adulthood, balancing school years and professional practice, can contribute to dropping out of a technical course.

In response to the question about *campus* location, the vast majority of respondents (47 alumni, or 79.66%) reported that the institution's location was not the main reason for their dropping out. For the 12 students who answered affirmatively (20.34%), an open-ended question was posed ("If yes, why?"). Some of the reasons given mentioned the difficulty of commuting to campus, class schedules, and the scarcity of transportation and the need to change cities during the journey.

The variety of shared experiences and the importance of considering logistical and transportation factors when planning the location of educational spaces in public

school systems are noteworthy. Furthermore, given this context, it is necessary to address the need for dialogue with the relevant authorities to explore practical solutions for improving public transportation.

When we asked if the student received guidance or instruction from IFTO when they expressed interest in interrupting the course, a total of 35 respondents (59.3%) stated that they had not received any guidance and 24 (40.7%) stated that they had received instructions and guidance, including encouragement not to give up.

The responses entered in the “Comment” field (open-ended response) reveal a variety of experiences, highlighting that the approach to guidance/instructions can vary considerably. One student mentioned receiving clear and direct guidance on the possible consequences of dropping out, such as losing the course and being unable to pick up where they left off: “They told me I would lose the course, that I couldn’t start from where I left off, and that they didn’t want me to leave *campus*.” Another student reported: “They tried to help me in the best way possible so that I wouldn’t give up.” Two students stated that they had not received any guidance.

It is noteworthy that, for some respondents, the institution sought to contribute in some way to preventing dropout, indicating an active concern with student retention. Others, however, reported that they had not received any guidance from staff at any time. In this understanding, it is necessary to refer back to Ramos (2017, p. 32), who explains important concepts about the provision of vocational education:

Before being an economic necessity, however, we defend the right of access to scientific and cultural knowledge systematized by the working class as an ethical-political principle, due to the ontological meaning of work. Humanity has constituted itself as such because human beings, faced with real needs, [sic] are willing to dominate nature, apprehend its determinants in the form of knowledge, and then transform it for the benefit of human life.

In this context, the analyses presented here encompass not only the retention of students in school spaces as a means of promoting quality of life for individuals, but also the institutional commitment to planning and offering courses that meet local needs.

Regarding the existence of work activity performed concurrently with study hours, it was found that 55 dropout students (93.2%) did not perform any professional activity while studying. It is important to note, however, that among the students who did work, four indicated the afternoon as their work time, outside of class hours. This information may indicate an overlap between study and work hours for these students, influencing the time available for them to dedicate to academic activities. Regarding professional working hours, two work more than six hours a day, one works four hours, and one works six hours.

The study sought to identify the reasons that led students to drop out of IFTO, separating them into internal and external factors. Participants could choose more than one option; Table 1 shows the reasons internal to the educational institution.

Table 1 – Reasons for withdrawing (2018-2022)

Answers	Number of signs
Difficulties with academic subjects (bad grades, failing grades, etc.).	32
Lack of support from teachers regarding my learning difficulties.	19
Lack of support from the teaching staff regarding my learning difficulties.	18
Heavy study workload.	18
Inadequate/insufficient school meals for students.	15
Lack of transportation.	13
Learning difficulties with remote classes during the Covid-19 pandemic.	12
Difficulties in the teacher-student relationship.	11
<i>Bullying.</i>	10
Absence of a restaurant.	8
Problem with a colleague.	5
Structural problems at the Institute (building, lack of adequate spaces).	3
Lack of equipment to attend remote classes due to the Covid-19 pandemic.	2
Lack of support from teachers regarding my difficulties with remote classes due to the Covid-19 pandemic.	1
Teacher unpreparedness to conduct remote classes during the Covid-19 pandemic.	1
Others.	1
Total of respondents: 59	

Source: Prepared by the authors, based on the research results. (2023).

The three most prominent reasons were difficulties with the subjects and the lack of support from teachers and the pedagogical team regarding learning difficulties. Following this, the heavy study workload appeared. Abramovay and Castro (2003), Dore and Lüscher (2011), and Figueiredo and Salles (2017) also present these academic factors, internal to the school, as relevant to students dropout.

It is worth noting that other issues, such as inadequate/insufficient food, lack of transportation, and difficulties with remote classes during the pandemic, were also mentioned as contributing factors to dropout rates. These results highlight the importance of addressing not only academic issues but also the basic and logistical needs of students, which implies social issues. On the other hand, the mention of problems related to the school environment, such as *bullying*, conflicts with teachers and classmates, as well as structural

issues within the institution, underscores the importance of creating a safe and inclusive educational environment.

Regarding factors directly related to personal and/or family life that contributed to dropout, it was possible to observe different factors, as organized in Table 2.

Table 2 – External factors to IFTO that led to dropout. (2018-2022)

Answers	Number of signs
Lack of interest in the course.	21
Psychological and/or emotional problems related to the Covid-19 pandemic.	18
The course was different from what I had imagined.	17
Difficulty in learning the technical content of the course.	14
Travel time from home to IFTO.	10
Change of address.	7
Financial difficulties (materials, transportation, etc.).	7
Difficulty in learning the content taught in the common core curriculum.	6
Problems at home.	4
Difficulty in balancing work and studies.	4
Lack of support from my family.	2
Personal health problems.	2
Pregnancy.	1
Family health problems.	1
Difficulty in balancing family life with studies.	1
Illness due to Covid-19 and its effects.	1
Transportation.	1
Others.	1
Total of respondents: 59	

Source: Prepared by the authors, based on the research results. (2023).

As can be seen, 21 students (35.59%) dropped out of school due to a lack of interest in the course. This data aligns with the theoretical framework of the research, in which disinterest in studies and grade repetition were identified by Shirasu and Arraes (2015) as the main factors that increase the chances of school dropout. Furthermore, the authors indicate the need for collaborative work between school and family to address this challenge. Thus, even though the data presented here are direct and contextualized in the present time, it is known that cultural values permeate the educational and personal trajectories of individuals and that they may or may not see themselves as belonging to a particular space.

Next, 18 students (31%) reported psychological and/or emotional problems related to the Covid-19 pandemic, and 17 (28.8%) stated that the course was not as they had imagined. The

lack of identification with the course was also addressed by researchers such as Dore and Lüscher (2022) and Parente (2019).

Regarding their experience of the school environment at IFTO, 25 rated it “Good” (42.4%); 14 rated it “Excellent” (23.7%); 14 rated it “Very good” (23.7%); five rated it “Satisfactory” (8.5%); and one rated it “Bad” (1.7%). Three students provided justifications:

It was excellent. One of the best institutions I've ever studied at in my entire life. I have a great desire to return to study on *campus* again, because of the teaching and also the professionalism there, not to mention that while I was studying there, I had several opportunities that I never had before.

I don't think anyone was truly hateful, but there were a lot of cliques and exclusion was a very serious issue.

When I entered IFTO, I felt more freedom, because the previous school was very different, and I was able to show everyone that, even with all the freedom the institution gave me, my interest in being there was actually in studying.

Those who had dropped out were asked if, after leaving IFTO, they had attended or were attending another institution or course, and 42 (71.19%) of respondents stated that they continued studying or had returned to studying, while 17 (28%) were outside the educational system. Those who did not continue studying represent a challenge for education and are among the nine million young people aged 14 to 29 in the country who did not complete high school, either because they dropped out before finishing this stage or because they never attended it (IBGE, 2023).

When asked to comment on the main reasons for dropping out, the students found space to recount, in their own words, the reasons that led them to abandon the technical course at IFTO - Dianópolis *campus*. The recorded responses included: difficulty with the Exact sciences (four respondents); need to work (four respondents); lack of interest (three respondents); location; study workload; lack of lunchroom; personal family problems; pandemic; remote classes; lack of support from teachers in Exact Sciences subjects; difficulty in core subjects. The data found converge with the dialogues discussed by Parente (2019) when researching teachers; it is considered that the absence of basic scientific knowledge interferes with the process of learning more efficiently.

Regarding educational difficulties, the dropout students reported experiencing greater learning difficulties in the Exact Sciences subjects, namely: Physics (36 responses); Chemistry and Mathematics (35 responses); and Biology (eight responses).

Regarding the subjects with the greatest difficulty in the Agriculture and Livestock course, the following appeared: "Annual Crops," with 12 mentions; "Olericulture," with ten; and "General Agriculture," with nine. Regarding the subjects with the greatest difficulty in

the Computer Technician course, the following appeared: "Introduction to Programming Logic," with 16 mentions; "Databases," with eight; and "Operating Systems Administration and Scripting Language," with seven.

It was observed that the subject with the highest number of complaints refers to "Programming Logic," which was also identified in other Federal Institutes as a point of difficulty among students. Lima Júnior (2021, p. 1), in a study at the Federal Institute of Bahia, points out that there is "[...] a lack of text interpretation, basic mathematics, and English, in addition to other problems, which can lead to failing the subject and even dropping out."

When asked about difficulties with any technical subject and their possible influence on dropping out of the course, 29 (49%) responded that this difficulty had been an influence; and 30 (51%) responded that it had "not". Among the dropout students who answered affirmatively, open-ended responses revealed greater difficulty in the technical programming subjects, corroborating the aforementioned results, "lack of academic background," as one respondent indicated.

Regarding the relationship between dropping out and the pandemic, 48 students (81.4%) stated that the pandemic had no impact on their decision to abandon the course, and 11 (18.6%) responded "yes," citing comments such as:

"Covid-19 distanced me from everything; it was something personal.

Online classes are awful, and anyone who disagrees is lying..

During the pandemic, I started working full-time outside the city and had no way to access classes.

Partly, yes, due to the difficulty of learning in the informatics course.

I couldn't go on; I found myself [sic] alone.

I completed almost two years of Distance Education in high school. When in-person classes returned, I had already decided to stop the course due to moving to another city.

I [sic] moved to the capital during the pandemic and decided to transfer to another campus.

My mother lost her job and I had to work to support the household.

When I switched classes on the first day of school, my class change was not registered in the school system, and that ended up affecting me during the pandemic when we had to access the institute's website to complete *online* assignments.

There was the pandemic and, throughout that, there were *online* classes, and I couldn't concentrate, and that was the reason.

Wandercil et al. (2024) also identified challenges during the pandemic. Thus, it is observed that dropout is multifactorial, with aspects related to personal, institutional, and social factors. In this context, Fornari (2010, p. 122) emphasizes that:

[...] School dropout and grade repetition do not depend solely on individual will, but are phenomena resulting from two factors: 1. The way the school is organized and, within that, the attitude adopted by teachers not only towards the student, but also towards that student's history; 2. The cultural, social, and economic heritage the student has as a basis for their intellectual development.

Here, as education researchers, we would add a third factor, which is the recognition of the second factor, that is, the understanding that students possess distinct cultural capital and that respect for them upon arrival at school should involve listening and welcoming them. In other words, recognizing that there is a multiplicity of subjects, histories, genders, races, and classes within a classroom constitutes, in our view, a fundamental principle for student retention and dialogue.

In the last (open-ended) question of the questionnaire, respondents had the opportunity to express their opinions and offer suggestions regarding the course and/or comments on the questionnaire questions in general. Among the issues highlighted were: individual fatigue and difficulty with core subjects, especially those involving calculations, suggesting weaknesses in mathematics education from elementary school, with significant impacts on high school.

Final considerations

School dropout is a challenge across different education systems, and investigating its causes is an important step in planning and developing actions to minimize them. Data on school dropout plays a relevant role in evaluating and making decisions in educational management. Given that Federal Institutes (IFs) have a concept of providing human and technical training for students from diverse social backgrounds, this study is important in light of the commitment established in institutional legal documents at the national level.

Regarding Integrated High School education, under the responsibility of the federal public administration, data from the Nilo Peçanha Platform for the year 2022 revealed that IFTO - Dianópolis *campus* had a dropout rate of 8.1%. To investigate the reasons for dropout in this specific context, a case study was conducted, involving document inventory and data collection and the application of an electronic questionnaire. This was a qualitative research study with specific tabulations. The Agriculture and Livestock and Computer

Technician courses were investigated. The survey was sent to 152 students who dropped out between 2018 and 2022 and had 59 respondents, 36 from the Agriculture and Livestock course and 23 from Computer Technician course. Documentary analysis of publicly available elements was used. The results reveal that dropout is predominant among male students. Regarding race/ethnicity, the majority self-identified as mixed-race (61.02%). Regarding financial aid, 39.49% reported not receiving any scholarship or financial aid during their time on the course, which may have contributed to their dropout rate.

A significant dropout rate was observed during the three years of the Covid-19 pandemic (2020 to 2022), totaling 69.49% of dropouts, although overall there was a decrease in the dropout rate. Regarding internal aspects of the school, students' difficulties with subjects and the lack of support from teachers and the pedagogical team for their learning difficulties were highlighted; 54.23% of students mentioned difficulties with technical subjects and regular subjects in the Exact Sciences field.

Difficulties commuting between home and *campus* were cited by 20.34% of students. In addition, fatigue resulting from the heavy workload and the lack of a place to rest and dining area were also mentioned as discouraging factors. It was found that 28.82% of students who dropped out remain outside the educational system.

The research also points to internal factors contributing to dropout, such as lack of interest in the course, psychological and/or emotional problems related to the Covid-19 pandemic, and students' expectations of the course differing from what they actually encountered.

The results also demonstrate that, although *campus* life is considered good, there are challenges to be faced in order to extend the retention and experience of students who yearn for opportunities to be heard at the Institution. Therefore, it is assumed that there is a need for pedagogical support, psychological assistance, and increased possibilities for financial aid to students through student assistance programs, in order to contribute to student retention when these are the determining factors.

Finally, it is worth mentioning that the research topic, by using students to obtain data, presents an originality that reflects the local reality. It is believed that this study can provide support for pedagogical planning at IFTO - Dianópolis *campus*, and may contribute to the debate on dropout factors within Federal Institutes in Brazil.

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