Oliveira, Pedro Rodrigues de; Oesterreich, Silvia Aparecida; Almeida, Vera Luci de
Evasão na pós-graduação a distância: evidências de um estudo no interior do Brasil1
Educação e Pesquisa, vol. 44, e165786, 2018
Faculdade de Educação da Universidade de São Paulo

DOI: 10.1590/S1678-4634201708165786

School dropout in graduate distance education: evidence from a study in the interior of Brazil[1]*

Pedro Rodrigues de Oliveira[2]
Silvia Aparecida Oesterreich[2]
Vera Luci de Almeida[2]

Abstract

The rapid development and dissemination of information technologies in the last decades has allowed a great expansion in the offer of undergraduate and graduate distance programs. However, this dissemination has been accompanied by high dropout rates, consistently reported in different programs and countries. This is the reality of distance education in Brazil too: a great expansion, including the establishment of Universidade Aberta do Brasil (UAB - Open University of Brazil), but with high failure rates. This study evaluated school dropout and its causes in a graduate certificate program of Programa Nacional de Formação em Administração Pública (PNAP - National Training Program in Public Administration), which aims to train public administrators in the interior of Brazil. High failure rates in these programs have been an obstacle to achieving the objectives of PNAP, because they prevent the training of labor precisely where it is most needed. This article investigates the main factors that lead to this phenomenon, by means of documentary analysis and collection of data on students from Universidade Federal da Grande Dourados, in Mato Grosso do Sul state, Brazil, via survey. After the collection, conducted through questionnaires and interviews, we did a statistical analysis of the data, which revealed a graduate student profile consistent with that reported in the literature and conducive to school dropout. It is verified that, given this student profile, some administrative strategies are necessary to prevent dropout rates from being so high. Such strategies are notoriously not enough to reduce dropout rates to acceptable levels; on the other hand, not developing strategies ensures dropout rates will not decrease.

Keywords

Dropout rate − Distance education − PNAP.

Introduction

The issue of school dropout in undergraduate programs has long been discussed. There have been studies on the subject since the 1970s, (for example, TINTO, 1975). Distance education (DE) can be considered the most democratic of the modes of education, since it uses information and communication technologies, overcomes obstacles to the achievement of knowledge (ALVES, 2011), and promotes the interaction and interactivity of the actors of this educational scenario, who are educators, tutors, students, among others (MACHADO; PRADO, 2016). Thanks to the spread of information technology, the number of distance education programs has been expanded, and so has access to them.

In the case of Brazil, which has a territory with continental dimensions and low social indicators, it is natural that distance education excels as a differentiated and alternative educational mode for training and the massive dissemination of knowledge, with intensive use of information and communication technologies to promote interactions with a view to learning. However, old problems persist, and among them that of school dropout.

According to Anuário Estatístico de Educação Aberta e a Distância – Abraed [Statistical Yearbook for Open and Distance Education] (2008), the average dropout rate of distance education programs in Brazil is 26.3%, and 85% of students drop out at the beginning of the program. In some cases, dropout rates are much higher. This creates a problem for managers, especially in public institutions.

Frankola (2001) mentions studies on the United States in which the persistence observed in distance education is generally between ten and twenty percentage points lower than in traditional programs. In Brazil, Abbad, Carvalho and Zerbini (2006) also confirm that the dropout rate in distance education programs is higher than in face-to-face programs. This article aims to contribute to this debate by presenting evidence from an experience in the interior of Brazil.

Definitions and literature review

The first issue to be addressed is the very definition of the term dropout rate. Some authors such as Maurício and Schlemmer (2014) and Almeida (2008) list some definitions used in the literature. The differences in the definition are important because they change the calculation of the rate. Some questions associated with the definition are: do students who enrolled but did not start the program enter the calculation? Has every student who failed to complete the program dropped out? Discussing the best definition is beyond the scope of this article. Thus, in this work, we consider that a dropout is someone who started the program and did not complete it – it is thus a failure rate. Therefore, the dropout rate is a sum of the dropout rate and the failure rate, as discussed below.

The 2013 DE Census (CENSO, 2014) reports that the average dropout rate is between 10.49% and 19.06%, depending on the type of program. In an interview with 813 students of these programs regarding the causes of their dropping out, the census revealed the following main reasons: lack of time (32.1%), accumulation of work activities (21.4%) and lack of adaptation to the methodology (19.6%).

Bruno-Faria and Franco (2011) evaluated a business administration program offered in the Federal District by Universidade Aberta do Brasil (UAB - Open University of Brazil). The authors included questions about the daily hours necessary to complete the program. It was observed that 28.2% of the students stated that they devoted an hour a day to the program, a third said they devoted two hours a day, and 12.8% stated they devoted three hours. Perhaps the small number of hours devoted the program correlates with the alleged lack of time.

The authors also found a dropout rate of 36.23%. They also point out that a high dropout rate, at a public university means wasting public resources. This makes the study of school dropout in public universities necessary.

According to the census (2014), female students predominate in this mode of education. Almost 90% of DE students study and have jobs. The predominant age group ranges from 21 to 30 years in regulated programs. For graduate programs, the predominant age group is 31 to 40 years. As Carr (2000) warns, older students prioritize family issues and, therefore, older students are more prone to dropping out. Consequently, dropout rates in graduate distance education may be even greater than in undergraduate programs – which motivates examining graduate distance education.

Demarco (2013) carried out a study on the school dropout in online graduate certificate programs in Rio Grande do Sul state. Three programs were offered under UAB, by Programa Nacional de Formação em Administração Pública (PNAP - National Training Program in Public Administration), in twelve DE centers. The author found a predominance of women and public servants, and the highest percentage of students was between 30 and 39 years old. There was a high dropout rate: 67.3%. The definition of school dropout used by the author is the same adopted in this study.

Numerous reasons for dropping out are listed in the literature: demotivation – Coelho (2001), Frankola (2001) Neves (2006), Ramminger (2006) –, lack of classroom partners – Frankola (2001), Neves (2006), Longo (2009) –, lack of time – Abraed (2008), Almeida (2008), Comarella (2009), Censo (2014), Neves (2006), Pacheco (2007), Ramminger (2006) –, lack of discipline – Coelho (2001) –, family issues – Almeida (2008), Ramminger (2006) –, financial issues – Abraed (2008), Ramminger (2006) –, they thought that the program would be easier – Abraed (2008), Almeida (2008), Ramminger (2006) –, difficulty accessing computers and the internet – Almeida (2008), Pacheco (2007) –, professors' poor qualifications – Sihler e Ferreira (2011) –, high turnover of tutors – Almeida (2008) –, lack of tutor feedback – Almeida (2008), lack of adaptation to distance education – Abraed (2008), Censo (2014), Longo (2009), Prensky (2001) –, among others.

Some of these reasons are mentioned in theoretical works, and others are cited in studies with a real sample of students. The most cited reason seems to be lack of time. The skill of reconciling working time with study and unforeseen events is not always available to the individual starting a program.

Rovai (2003) reviews the reasons that lead distance education students to persist or to drop out. In short, the author establishes a model in which persistence is determined by factors prior to and post-admission to the program. Among the factors prior to admission are the characteristics of the students (age, ethnicity, gender, intellectual development,

academic performance, and academic preparation) and their inherent skills (computer and information literacy, time management, reading and writing, and interaction in virtual environments). Among post-admission factors there are internal aspects (academic and social integration, commitment to objectives and institutional commitment, study habits, school attendance, satisfaction, guidance, teaching and learning techniques, self-esteem, clarity of programs, among others) and external aspects (working time, family responsibilities, external stimuli, and personal crises and finances).

We see, therefore, that a wide variety of reasons can lead students to drop out DE. Given the problematics of school dropout in this mode, and the indications in the literature that older students tend to drop out more, this paper aims to verify the main reasons that lead to school dropout in graduate distance education, an area with few evaluations in Brazil. For this, we use the data on online graduate certificate programs of Universidade Federal da Grande Dourados (UFGD), in Mato Grosso do Sul state, Brazil, in 2013 and 2014. It is noteworthy that this was the first experience in online graduate certificate programs at UFGD. We hope that our findings contribute to the debate on graduate distance training in DE and to the debate on the management of such programs.

Programa Nacional de Formação em Administração Pública [National Training Program in Public Administration] at UFGD

Universidade Aberta do Brasil (UAB), a system composed of public universities, was created in 2006 and offers higher level programs for sections of the population who have limited access to university education, through the distance education methodology.

In 2009, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes - Coordination of Improvement of Higher Level Personnel) announced PNAP to public institutions of higher education participating in the UAB system, aiming at the training and qualification of higher education staff to perform management activities and university teaching. The program's main objectives were: to enable managers to work in the management of macro public systems (government) and micro public systems (organizational units); to enable professionals with adequate training to intervene in the social, political and economic reality; to contribute to the improvement of the management of the activities carried out by the Brazilian State at the federal, state and municipal levels; to contribute to the development of public managers' strategic vision of public affairs, by means of the systematic and in-depth study of the administrative reality of the government or of its productive units (CAPES, 2012).

At UFGD, the implementation project of distance education was presented at a meeting of the Undergraduate Education Chamber on July 6, 2010. In 2012, the DE of UFGD joined PNAP, offering bachelor's degree programs in public administration and graduate certificate programs in public management, municipal public management and health management, in the distance mode, under the UAB system, according to public notice number 19/2012 – PNAP (CAPES, 2012). Graduate certificate programs are the object of this study.

PNAP graduate certificate programs are intended for holders of higher education degrees who work for public bodies or the third sector or who aspire to public office.

This first offer under the PNAP by DE-UFGD, consisted of 350 places in graduate certificate programs, distributed in three face-to-face support centers: Bela Vista, Costa Rica and Porto Murtinho, all of them in Mato Grosso do Sul state, as Table 1 demonstrates.

It is important to emphasize that graduate certificate programs in the institution are projects without a guaranteed continuity. That is, that the program is offered this year does not mean that it will be offered in the following year. For example, previous subjects and/or credits cannot be validated. Because the program is a project, it is self-contained.

Table 1– Places offered per DE center in PNAP programs – DE/UFGD

UAB centers	Municipal Management	Public Management	Health Management
Bela Vista	50	50	50
Costa Rica	-	50	-
Porto Murtinho	50	50	50
Total number of students	100	150	100

Source: Capes, 2012.

The programs were organized in two stages: theoretical modules, from March to December 2013, and the preparation of an undergraduate thesis[3], from January 2014 on. Students took the subjects in blocks, which totaled eight, and in each block a maximum of two subjects were offered simultaneously. Each theoretical block lasted approximately five weeks. For each subject, students developed the activities suggested by the professor, and were accompanied and evaluated by a distance tutor. In addition to these evaluations, in the virtual learning environment (VLE), students had to take a written evaluation in a face-to-face support center at the end of each block[4]. The final grade of a student corresponded to 51% of the face-to-face written evaluation and 49% of the average grade in the evaluations in the VLE. Only approved students in all the subjects of the theoretical module were enrolled in the undergraduate thesis program.

Methodology

In addition to documentary research on university regulations, data and administrative actions, dropout rates, and experiences available in the literature, this study has an exploratory-descriptive approach. Its goal is to collect data to corroborate, contradict or supplement relations already made explicit in the literature.

3- Translator's note: In *Portuguese, trabalho de conclusão de curso.*
4- Netto, Guidotti and Santos (2012) argue that distance education in Brazil is blended, since the legislation requires face-to-face tests.

Since there are no databases available to allow access to this information, its completeness and specifics, we chose to collect these data. For this purpose, this study carried out a survey among students of graduate certificate programs in public management, municipal public management and health management offered in partnership with Universidade Aberta do Brasil (UAB) at Bela Vista, Costa Rica and Porto Murtinho DE centers, in Mato Grosso do Sul state.

Since the research required information from students located at three different DE centers, which were very far from each other, the instrument of data collection was a questionnaire, sent by e-mail on May 28, June 10 and June 20, 2014, to all students of graduate certificate programs. According to the main reasons and characteristics, observed in the literature, associated with school dropout, this questionnaire was constructed to gather basic information on the student, the program and the relation between the student and the program. Most questions collected basic student data, such as: age, gender, marital status, number of children, city of residence, training, and employment status. However, specific questions about the program were also included: DE center, whether the student was still attending the program, weekly hours devoted to study, as well as space to be filled out with criticism, suggestions, reports of experiences, and motivation to look for DE programs. The purpose of these questions was not only to outline the basic characteristics of the student in question, but also to obtain several reports that could bring new elements not considered by previous research on school dropout. These questions also allowed the comparison of the characteristics of the students who dropped out with those of the ones who did not, which is an important objective of the article.

Aiming to increase sample representativeness, we did interview data collection: the students who had not answered the questionnaire sent by e-mail received telephone calls after the period mentioned, which made the process continue until the first week of August of the same year. Students who could not be reached by telephone (due to number change, because they were not present and/or did not return the call) or who stated that they had no interest in answering the questionnaire were excluded from the sample. Of the 325 students enrolled, 171 (52.6%) took part in the sample.

Using the data collected, the descriptive statistics of the sample were analyzed. The main lines of analysis were: comparison between students who dropped out and students who did not and analysis of the variation of the dropout rate according to the sample characteristics.

Results and discussion

This study explores the reasons that lead to school dropout, and offers suggestions of possible strategies to deal with it.

Dropout rate and administrative measures

The actual dropout rate in graduate certificate programs offered in 2013 and 2014 is described in Table 2 below.

Table 2 – Actual dropout rate

	Municipal Public Managment	Public Management	Health Management	General
Places offered	100	150	100	350
Students	83	141	103	327
Students completing the program	29	55	26	110
Dropouts	54	86	77	217
Dropout rate	65.06%	61%	74.76%	66.36%

Source: Research data.

The first information to be observed is the number of students enrolled. With the exception of the health management program, the programs did not fill all the places. Although the number of participants was higher than the number of places, many enrollees did not have all the prerequisites, and not all of those selected actually enrolled.

The overall dropout rate was 66.4%. The health management program had a noticeably higher dropout rate compared to the other two. This is due to the fact that the same program was offered, after the beginning of the program of UFGD, by another institution in a DE center near Dourados, the place of origin of a significant portion of the students. This made a significant number of them drop out.

Even so, the dropout rate of graduate certificate programs can be considered high, despite being smaller than other similar programs offered in the interior (for example, DEMARCO, 2013). An important point is that, because it is a project within the institution, it does not allow, for example, the validation of credits of previous subjects. The fact that the program has been offered in one year does not mean it will be offered again in the following year, that is, students who failed a subject are automatically eliminated and their credits cannot be reused. Subjects studied in a similar program at another university (or at the same university) cannot be validated either. These characteristics in themselves limit the possibilities of reducing the dropout rate.

Such a rigid system needs flexibility to prevent dropout rates from soaring. Some of the measures adopted were: 1) students who missed the date of their face-to-face test could take it at the next meeting, as long as their absence was justified; 2) providing a week of content review, before the face-to-face test; and 3) an accompanying tutor, who contacted the student when s/he failed to enter the system for three days. When the telephone contact was not possible, the face-to-face tutor was asked to check what was happening to the student.

As mentioned previously, despite these measures, school dropout was significant. In order to investigate it, questionnaires were sent to the students to reveal reasons that would provide analysis with additional information.

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Results obtained from the questionnaires

One of the problems with questionnaires sent by e-mail is the possible selection of the sample that will make up the final data. The data has to be verified carefully to check whether the sample is representative of the population.

In this case, 171 students (out of a total of 327) answered the questionnaire, which represented a rate of return of 52.3%, which was considered high and satisfactory for this type of study design. However, we still have to evaluate whether there is a sample selection bias. For example, it is possible that only the best students, those who were about to complete the program, answered the questionnaire. Uninterested and/or unmotivated students might simply have ignored the request. Or the most dissatisfied students could also see the questionnaire as a chance to express dissatisfaction. To avoid these types of biases, the university's teams of distance education interns called the students and filled out the forms, seeking to incorporate in the sample the students who would not answer the questionnaire.

Table 3 summarizes the main characteristics of the sample.

Table 3 - Characteristics of the sample

Variable	Mean	Standard deviation	Minimum	Maximum
Age	33	8	21	56
Man	0.34	0.47	0	1
Children	0.93	1.12	0	4
Dropped out	0.56	0.50	0	1
Weekly study hours	7.02	5.24	0	36
Distance education graduate	0.32	0.47	0	1
Public management	0.43	0.50	0	1
Municipal public management	0.30	0.46	0	1
Health management	0.26	0.44	0	1
Bela Vista	0.53	0.50	0	1
Porto Murtinho	0.34	0.47	0	1
Costa Rica	0.13	0.34	0	1
Civil servant (at the beginning of the program)	0.64	0.48	0	1
Illness (at the beginning of the program)	0.04	0.18	0	1
Distance from the DE center (in km)	171.76	250.78	0	2592
Lives in the city where the DE center is located	0.39	0.49	0	1

Source: Research data.

In the sample, there was a dropout rate of 56% – slightly lower than the 66.4% of the actual dropout rate. This means that there was a slightly smaller number of students who dropped out in the sample in comparison to the population. However, it can be said

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that the strategy successfully obtained a representative sample of the population, and as many dropout students as possible – otherwise, the intention to compare the students who dropped out to those who did not and the possible grounds for dropping out would have been seriously compromised.

With regard to the general characteristics of the students, it is noted that, on average, almost every student had a child. There was also a predominance of women. Almost 40% of the students lived in the city where the DE center was located. The lowest percentage of students came from the health management program. Most of the students were from Bela Vista DE center, where all three programs are offered. The minority of the students was from Costa Rica DE center, where only the public management program was offered. The vast majority of the students worked in the public sector - which is consistent with the expected public for PNAP programs.

Table 4 shows the dropout rate per program, obtained from the sample. Rates of 54.05%, 53.85% and 60% were observed, which are lower than the actual rates observed in Table 2. However, if the proportionality between the dropout rates observed in Table 2 were maintained, we would have dropout rates of 51.07%, 54.47%, and 62.6%, respectively, that is, quite close to those observed in Table 4.

Table 4 - Number of respondents and dropout rate per program

Program	Respondents	Students who dropped out	Students who dropped out (%)
Public Management	74	40	54.05%
Municipal Public Management	52	28	53.85%
Health Management	45	27	60%
Total	171	95	55.56%

Source: Research data.

This means that the distribution of respondents to the questionnaire per program corresponds to the distribution of students who actually dropped out per program, which reinforces the evidence that the sample is representative of the population.

Considering this, we will now analyze the main characteristics of the sample. Table 5 shows the distribution of students by age group, and the dropout rate of each age group.

Table 5 – Distribution of students by age group

Age	Frequency	% of samples	Dropout rate
Up to 25 years	40	23,4%	47.5%
26 to 35 years	78	45.6%	52.6%
36 to 45 years	38	22.2%	65.8%
Older than 45 years	15	8.8%	66.7%
Total	171		55.56%

Source: Research data.

The public consists of adult students, mostly aged up to 35 years. School dropout gets higher as age increases, confirming the argument of Carr (2000). For students aged up to 25 years, school dropout was 48.8%, while for those over 45 years the dropout rate was 66.7%. In the prevailing age group, people engage in remunerated activities. At the beginning of the program, 84.4% of the students had jobs and, in the end, this percentage rose to 94%, indicating that the program possibly interfered positively in the social reality of the students. Table 6 presents this information.

Table 6 - Occupation area of the respondents

Employment status	At the beginning of the program	%	At the end of the program	%
Civil servant	109	63.7%	124	72.5%
Private sector	36	21%	37	21.6%
Unemployed	8	4.7%	6	3.5%
Inactive	18	10.5%	4	2.3%
	171		171	

Source: Research data.

The main public of PNAP are civil servants, which is natural since it is a public administration program. It is noted in Table 6 that many of those who were inactive at the beginning of the program began working in the public sector – which leads us to imagine that, when entering the program, they already expected to work in the sector.

The predominant marital status was married (53%), and half the students had children (50.3%). The average was 0.93 children per student, which means that nine out of ten students in the sample had a child. However, the group of students aged up to 25 years had practically no children. It is hypothesized that having children may compromise study time. However, the average number of hours studied per week by students with children was not different from that of the ones without children. Nor was the dropout rate any different. As observed in Table 5, the correlation between the dropout rate and age is greater than between the dropout rate and the number of children.

The predominant gender is female: two-thirds of the students. However, the dropout rate is higher among men, as Table 7 below demonstrates.

Table 7 – Dropout rate by gender

Gender	Frequency	Relative Frequency	Dropout rate
Woman	113	66.1%	51.3%
Man	58	33.9%	63.8%
	171	100%	55.56%

Source: Research data.

Although the dropout rate is approximately twelve percentage points higher among males, it is not statistically different from that of females.

Regarding the weekly study hours, it was found that students who dropped out studied an average of 6.3 hours a week, compared to 7.9 hours a week for students who did not drop out. Figure 1 presents the accumulated percentage of students by the number of weekly hours devoted to the program.

Figure 1 - Weekly study hours according to school dropout status
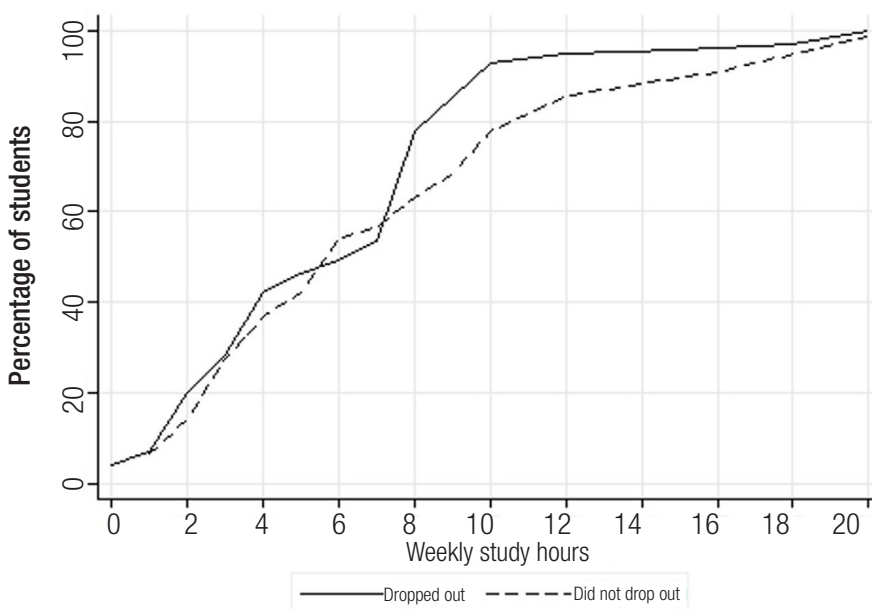
Source: Research data.

In Figure 1, we see that the distribution of study hours appears to be equal between the two groups for those who studied up to seven hours a week, around 55% of the students. From there, approximately 93% of students who dropped out studied up to 10 hours, which seems to be the maximum number of hours studied per week, whereas, in the group that did not drop out, 93% of the students studied up to 18 hours. This difference meant that the average number of hours studied was higher for the group that did not drop out[5]. Thus, the availability of time to study seems to be correlated with students' remaining in the program.

The question about the number of hours of study in distance education is an interesting case. In face-to-face education, this question can be interpreted by students in two ways: they may include time in class or only outside-the-class study time. Even if the question leads to this confusion, in face-to-face education these two times are clearly defined, whereas, in distance education, there is no clear distinction between the


5- Statistically significant difference at a level of 10% significance (Statistic t = 1.82).

two. Outside-the-class time would have to be defined, if necessary, as the time devoted to study, without considering some program activities in the VLE.

In any case, there is an ideal time of total dedication to the program and it should be the same in distance and face-to-face education. The question aims to capture students' dedication to the program and, in face-to-face education, because outside-the class time is more easily defined, the hours of outside-the class study give a better idea of this dedication. Considering that there is no such division in distance education, studying seven hours a week means devoting one hour a day on average to the program. If the program were face-to-face, this would mean a total devotion of one hour and twenty-four minutes per class day. This shows how small the time spent by most students is: which is perhaps a reflection of the alleged lack of time. The students who dropped out devoted on average less than an hour a day to study.

One of the hypotheses of high school dropout is that distance education is a novelty for students, and that the lack of knowledge about how this type of education works could lead to a greater probability of dropping out. Figure 2 below shows the percentage of students who dropped out considering whether they had a distance or face-to-face bachelor's degree.

Figure 2 – School dropout according to mode of the undergraduate education
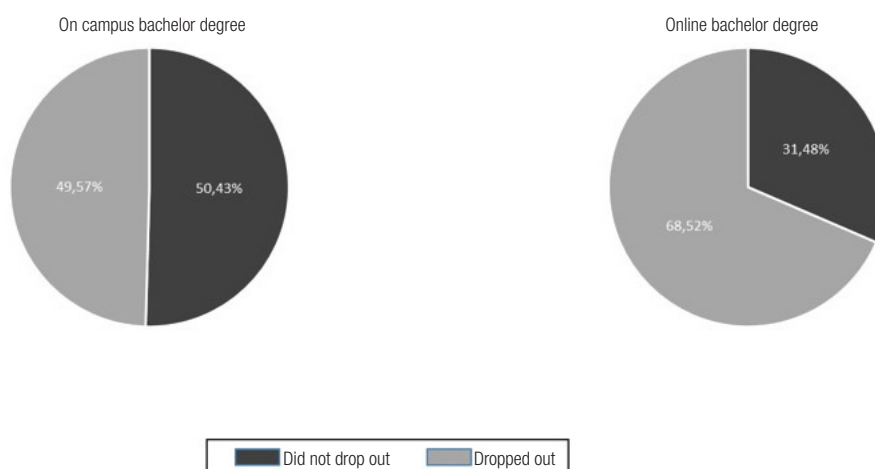
Source: Research data.

It is observed that the dropout rate among the students pursued an online bachelor degree was 68%, thus higher than the 49%[6] rate of those who pursued a on campus degree. This is contrary to what was hypothesized. In the sample, 31.6% of the students pursued online bachelor degrees.

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6 - Statistically significant difference at a 2% level of significance (statistics t = 2.40).

However, this result may still be due to the fact that students who pursued online bachelor degrees are in situations of greater vulnerability and more likely to drop out than the students who did not. In this way, to observe the characteristics of the students who pursued online bachelor degrees can offer clues about the preponderant reasons for these students to drop out.

Table 8 shows the average differences between undergraduate and graduate students in distance education.

Table 8 – Means for characteristics according to the mode of undergraduate education

Characteristics	On campus bachelor degrees	Online bachelor degrees	Signif.
Age	32.44	34.52	
Man	32%	37%	
Has children	46%	59%	
Number of children	0.85	1.11	
Weekly study hours	7.37	6.28	
Lives in the city where de DE center is located	34%	50%	*
Distance from the DE center (km)	183.17	147.02	
Was ill when s/he started the program	3%	4%	
Employment status when starting the graduate certificate program			
Worked in the public sector	63%	65%	
Worked in the private sector	17%	30%	*
Unemployed	7%	0	***
Did not work or look for a job	13%	6%	

Note: *, ***: Significant at the level of 10% and 1%, respectively

Source: Research data.

It can be observed that few differences were statistically significant. But there are differences worthy of note. The students who pursued an online bachelor degree have more children than those who pursued an on campus bachelor degree. They also live closer to the DE center. And a much smaller percentage of distance education undergraduates only studied (that is, they did not work or look for a job). Among the significant differences we can see: the percentage of students living in the city where the DE center is located, who work in the private sector, and who are unemployed.

Thus, we have an indication that DE students have a small range of options for their formal education. They are students for whom not working is not an option – which also

helps understand the limited time devoted to the program. This also helps understand the preference for programs offered in the city in which they live, which means not having to travel to the DE center. The school dropout observed in the health management program illustrates this preference, because most of the students chose not to use the credits of the subjects already studied and start the program in another institution, simply because it would be provided at a closer location.

One limitation of the above analysis is the fact that the students who are more prone to dropping out in distance education had probably already dropped out, and those who started graduate studies have different characteristics from those of the average of their undergraduate peers in the online bachelor degree they pursued. Therefore, the observed differences could be even greater if students attending an on campus undergraduate program were compared to students in online undergraduate programs in the DE mode.

In the epistemology of Rovai (2003), there are internal and external factors not captured in the research that lead to school dropout. The reasons that lead to school dropout are probably a combination of the individual characteristics described with the environment which the individual is in, and the questionnaire fails to fully capture this combination of factors. However, this is the best information we could obtain and, combined with institutional experience, it is an important set of information to address the problem of school dropout.

With respect to the city where the students live, what is clear is that few students actually live in the city where the program takes place. Many students are from cities near the DE centers, which means PNAP serves cities even further inland. However, this also increases the probability of school dropout, since, for a full year, the student must go to the DE center every four or five weeks to take classes and tests, which makes the experience more costly and exhausting if the student does not actually live in the city where the center is located.

In the questionnaire, the students themselves could state why they were no longer in the program. Sixty-eight out of the 95 students in the sample who dropped out answered the question. For these, the most mentioned factors were, in order: lack of time (cited by 38% of respondents), distance from the DE center (32%), difficulty with transport (15%), difficulty of the program (17%), and health or personal reasons (17%).

The reason most cited by the students was lack of time. This perception confirms the analysis based on the weekly study hours: availability of time for study is a crucial factor for remaining in the program.

Health or personal reasons have also been widely cited. Six students reported having a disease at the beginning of the program. Four of them ended up dropping out. Health issues, whether affecting students or their families, are unexpected reasons and have a lot of importance in their decision to remain in the program. Eighteen months is a long time during which the student may be subject to some misfortune.

Another two reasons cited were the distance from the DE center and difficulty with transport. These two reasons are highly correlated. By associating them, we found that

one out of three students who dropped out and answered the question stated that one of these two reasons contributed to their dropping out. In general, the reasons cited are in agreement with those present in the literature.

Table 9 below presents the data on school dropout and the distance between the city where the student lives and the DE center, besides the information on the percentage of students who live in the city where the DE center is located.

Table 9 – Distance from the DE center and school dropout

	Mean distance from the DE center	Standard deviation		Obs.	Percentage
Dropped out	162.51	177,66	Lives in the city where the DE center is located	67	39.18%
Did not drop out	183.21	320,55	Does not in the city where the DE center is located	104	60.82%
			Total	171	100%

Source: research data.

Note that most students do not live in the city where the DE center is located, but the difference between the average distance of those who dropped out and those who did not was not statistically significant. The average distance from the DE center was 171 km[7].

In addition, the high number of people living in the largest cities[8] shows that there is an issue in the focus of the target public. PNAP aims to train municipal managers in cities in the interior, where administration lacks more qualified professionals. However, there would obviously be more people interested in larger cities, and where administration is also greater. Perhaps these students are the ones who enable the implementation of the program, because, if the public were restricted to students from small towns, the number of people interested might not be sufficient to complete the student body. However, this causes a greater number of students to be more subject to dropping out, considering the logistic difficulty of remaining in the program.

Conclusion

This study aimed to investigate school dropout in online graduate certificate programs and its reasons, reporting the experience gained in programs in the interior of Brazil. To that end, questionnaires were sent to the students, 52.3% of which were answered. The information obtained allowed an analysis of the students' profile, giving important clues as to why school dropout is so high in distance education programs.

7- See Table 1.
8- 39.2% of the sample.

It was evidenced that both factors intrinsic to their situation and random reasons may lead to a high probability of school dropout and a high dropout rate in the program. Health reasons, for example, are misfortunes with great potential to lead students to drop out and, and, in the specific case of the non-degree graduate education, to the loss of the program. Considering the student's profile - older age -, family and health reasons increase the potential for student dropout and, therefore, the dropout rate of the program.

Because it is a more mature population, with family and children, availability of time is a crucial factor. In fact, lack of time is among the main factors hindering distance education programs. This is typical of the public to which distance education is intended, which explains why dropout rates are higher in distance education than in face-to-face education. This is reflected in the small number of daily hours dedicated to the program. There seems to be a maximum number of hours available, which totals 10 hours per week. And this study revealed that there is a correlation between the number of hours studied and remaining in the program.

Differential evidence in this study was that the number of children did not seem to affect the number of hours available for study or dropout rates, since the average number of hours devoted to study and school dropout are not different for students who have and who do not have children.

The main factor associated with small devotion seems to be work, since the vast majority of students have jobs and, therefore, claim "lack of time". To this fact, it is added that many students have to travel long distances to take face-to-face tests. Netto, Guidotti and Santos (2012) argue that distance education in Brazil is actually blended education because the legislation requires face-to-face tests. This makes it difficult for students to manage time.

Furthermore, few students actually live in the city where the program takes place. Students are scattered throughout larger cities and even smaller, inner towns. On the one hand, this is a problem because it brings difficulty for students and increases their likelihood of dropping out; on the other, the program provides training for public managers where it is most demanded.

This study also brought evidence contrary to the hypothesis that school dropout is due to ignorance of and unfamiliarity with the methodology of distance education. The school dropout observed is higher among distance education graduates than among students who pursued bachelor degrees on campus. Thus, the profile of the students is a much more preponderant factor for their permanence than the fact that they are already familiar with the education mode.

Thus, this type of program deals with a public that will hardly have low rates of school dropout. From a pragmatic perspective, among the causes of school dropout, the main factor is the very profile of distance education students. Some reasons cited for school dropout are misfortunes which students of face-to-face education are also subject to. However, the student of face-to-face education, or of undergraduate programs, can retake tests and/or have a second opportunity to retake tests and demonstrate what they know about the subjects they failed, whereas the student in online graduate certificate programs does not.

On the one hand, the literature review and data presented lead us to an understanding that the dropout rate of PNAP programs will never be low. On the other, it should not lead us to conform to that fact. As literature and our own experience show, it is always possible to move forward in the design of the program and in strategies to reduce school dropout. The real question is: how can the programs be structured considering the profile of the student in question?

The experience of UFGD revealed positive aspects in the extension of deadlines and flexibilization, which provided the student who was in an unforeseen situation with a way to continue in the program. During the second half of 2013, to minimize school dropout, the university used monitoring tutors, whose assignment was to monitor students in the VLE, aiming to detect weaknesses in the process (monitor when a student failed to access the VLE, participate in or carry out the evaluation activities of the subject). This management measure contributed to stabilize the dropout rate, which, though high, was below the PNAP national average.

As most school dropout occurs at the beginning of the program, monitoring tutors must be present since the beginning of it. However, the effectiveness of monitoring tutors was confirmed, even though they started working in the second semester. This also reveals the importance of keeping students' administrative data up to date from the beginning to the end of the program. Otherwise, monitoring or face-to-face tutors lose their effectiveness when they are not able to reach the student.

Another structure tested was the review week, through the VLE, of each subject before the face-to-face evaluation, which enabled students to better prepare for such evaluation. During the theoretical modules, the institutional evaluation sector carried out evaluations of the following dimensions: educational (professor and distance tutor), managerial (coordination of programs and coordination of tutoring), institutional (virtual moodle room and learning material), face-to-face support center (center coordination, physical structure, technological resources, and the performance of the face-to-face tutor), and self-evaluation of performance (student). Based on these evaluations, reports by subject are produced. Such reports highlight potentialities and weaknesses, and provide information to support the program's educational and program management actions. Evaluation is an essential mechanism for management. A satisfaction survey conducted with enrolled students revealed that all of them would recommend the program, which is an important indicator of the success of these strategies.

Some other adaptations refer to the very disciplinary structure of the programs. The health management program, for example, has specific subjects in the health area, besides the common core subjects of PNAP. However, in the schedule proposed by PNAP, the common core is offered at the beginning of the subjects, and specific subjects are not until the second semester. This would prevent the students from that area from studying subjects which they are more familiar during the first six months of the program, which could be a potential demotivation factor. Thus, specific subjects were advanced to the first semester. The students praised such structure, and it was noted that having done it in the traditional manner would have caused much dissatisfaction among them.

Another strategy observed was to offer them the possibility to take tests of past blocks in the following blocks, as long as a justification was given. This was important, since failure to take a face-to-face test meant that the student was immediately dismissed, because s/he would necessarily fail that subject. This mechanism helps not only to motivate the students who would clearly be dismissed from the program but also to keep them taking it.

In the university experience reported in this article, the measures adopted were quite successful in keeping students in the program. Online graduate certificate programs are challenging for both students and for proponents, and very different problems from those faced by face-to-face programs. However, the bottom line is the perception that, on the one hand, the adjustments made are clearly not enough to generate low school dropout, and, on the other hand, not making them means that school dropout will not be low.

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Pedro Rodrigues de Oliveira holds a doctorate in Economics from Escola Superior de Agricultura "Luiz de Queiroz", Universidade de São Paulo (ESALQ/USP). He is a professor at Faculdade de Administração, Ciências Contábeis e Economia (Administration, Accounting and Economics School), Universidade Federal da Grande Dourados (UFGD).

Silvia Aparecida Oesterreich holds a doctorate in Sports and Physical Activity Sciences from Universidad de León, Spain. She is a professor at Faculdade de Ciências da Saúde (FCS - Health Sciences School), Universidade Federal da Grande Dourados (UFGD).

Vera Luci de Almeida holds a doctorate in Engineering and Knowledge Management from Universidade Federal de Santa Catarina (UFSC). She is a professor at Faculdade de Administração, Ciências Contábeis e Economia (Administration, Accounting and Economics School), Universidade Federal da Grande Dourados (UFGD).