INFLUENTIAL FACTORS IN ACADEMIC RETENTION IN THE LICENSEE UNDERGRADUATE COURSES IN NATURAL SCIENCES OF A BRAZILIAN PUBLIC UNIVERSITY

FATORES INFLUENTES NA RETENÇÃO ACADÊMICA NOS CURSOS DE LICENCIATURA EM CIÊNCIAS DA NATUREZA DE UMA UNIVERSIDADE PÚBLICA BRASILEIRA

FACTORES INFLUYENTES EN LA RETENCIÓN ACADÉMICA EN LOS CURSOS DE LICENCIATURA CIENCIAS NATURALES DE UNA UNIVERSIDAD PÚBLICA BRASILEÑA

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Abstract: The objective of this study was to identify the students' perception regarding the factors related to academic retention in two licensee courses in Nature Sciences. The subjects were academics who had already failed or blocked their enrolments in at least one component. The data collection was done through a questionnaire with questions and affirmations, which were evaluated through a five-level agreement scale. From the obtained data were made descriptive analyses, which were discussed from the Model for Study of Factors Associated with the Retention Process described in the area literature. The results indicate that the factors: secondary education, lack of student support programs, and the need to work while attending the course influence in academic retention in the context investigated. Given this, it is possible to list some actions that can minimize the high rate of retention in these courses.

Keywords: Academic retention. Reprocessing and locking. Licensee of Science in Nature

Resumo: O objetivo deste trabalho foi identificar a percepção dos estudantes referente aos fatores relacionados à retenção acadêmica em dois cursos de Licenciatura em Ciências da Natureza. Os sujeitos foram acadêmicos que já haviam reprovado ou trancado suas matrículas em pelo menos uma componente. A coleta de dados deu-se através de um questionário com questões e afirmações, as quais foram avaliadas por meio de uma escala de cinco níveis de concordância. A partir dos dados obtidos foram feitas análises descritivas, as quais foram discutidas a partir do Modelo para Estudo

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dos Fatores Associados ao Processo de Retenção descrito na literatura da área. Os resultados indicam que os fatores: formação no Ensino Médio, falta de programas de apoio ao discente e necessidade de trabalhar enquanto frequenta o curso, influenciam na retenção acadêmica no contexto investigado. Diante disso, é possível elencar algumas ações que podem minimizar o alto índice de retidos nesses cursos.

Palavras-chave: Retenção acadêmica. Reprovações e trancamentos. Licenciatura em Ciências da

Resumen: El objetivo de este estudio fue identificar la percepción de los estudiantes sobre los factores relacionados con la retención académica en dos cursos de licenciatura en Ciencias Naturales. Los sujetos eran académicos que ya habían reprobado o bloqueado su inscripción en al menos un componente. Los datos se recopilaron a través de un cuestionario con preguntas y declaraciones, que se evaluaron utilizando una escala de acuerdo de cinco niveles. A partir de los datos obtenidos, se realizaron análisis descriptivos, que se discutieron a partir del Modelo de Estudio de Factores Asociados con el Proceso de Retención descrito en la literatura del área. Los resultados indican que los factores: educación secundaria, falta de programas de apoyo estudiantil y necesidad de trabajar mientras asisten al curso, influyen en la retención académica en el contexto investigado. Dado esto, es posible enumerar algunas acciones que pueden minimizar la alta tasa de retención en estos cursos.

Palabras clave: Retención académica. Reprobación y bloqueos. Licenciatura en Ciencias Naturales.

1 INTRODUCTION

Higher Education in Brazil has faced difficulties in the fulfillment of its objectives regarding the completion rates of undergraduate courses in the regular period stipulated by the Institutions of Higher Education (IES). In general, the data from the Census of Higher Education (BRASIL, 2015) indicate a marked disparity between the number of enrollments and the number of graduates in the most diverse courses, since the number of conclusions does not reach a quarter of the enrollments made.

In specific, in the licensee courses of the Federal IES of the state of Rio Grande do Sul (RS), the said Census reveals that between the period from 2011 to 2015 only 14.23% of the students enrolled in the year 2011 were able to complete the course in 2015. It is presumed that the other students had already dropouted or were in a situation of retention, and thereby would not complete the graduation within the period determined by the institution.

Retention as a consequence of disapproval or locking of enrollment can be considered as one of the main causes of dropout in Higher Education, because depending on the number of failures and/or lockups, the student may be discouraged from remaining in the course, coming to abandon it (MORAES, 2015; YAMAGUCHI; SILVA, 2019). About disapproval, Yamaguchi e Silva (2019,

p. 344) warn that "the risk of retention of students with a disapproval is 2.3 times that of those who did not fail".

It is inferred that the phenomenon of retention should be seen as a problematic pertinent to the teaching process, because it compromises personal, professional and even financial successes of the student. Likewise, this involves aspects related to the institution's efficiency, since this does not reach the expected rates of productivity in relation to the training of its academics, which delays the availability of qualified professionals to work in society (YAMAGUCHI; SILVA, 2019).

Nevertheless, it is often realized that academic retention has not received the due interest of researchers in the area of education since "in a large number of studies, both national and international, retention plays a secondary role, given that most focus on evasion" (PEREIRA, 2013, p. 17). This understanding is corroborated by Almeida, Sampaio e Santos (2015) who affirm that there are few studies that deal with failure in components in the areas of Science and Mathematics in undergraduate courses.

In this sense, focusing on the phenomenon of academic retention, the present study sought answers about this context in the two undergraduate courses in the Licensee of Natural Sciences (LCN) of Federal University of the Pampa (UNIPAMPA) offered in the municipalities of Dom Pedrito and Uruguaiana, both in the southern half of RS state.

According to the Institutional Development Plan (PDI) for the period 2014-2018, UNIPAMPA emerged with the responsibility of meeting the demands of the southern half of the state of RS, committed to the progress of this region that presents development problems in several segments (UNIPAMPA, 2013). Considering LCN courses, according to institutional data, the index of completion of the classes formed in the two campuses in the year 2016 represented less than 20% of the total number of registrations. This fact contrasts with the expectations of the institution in view of the considerable demand by science teachers in the region. In this context, the objective of the study is to identify the possible factors related to academic retention in UNIPAMPA LCN courses according to the perceptions of its academics. Therefore, the guiding question of this study is: According to the academics of UNIPAMPA LCN courses in probable retention situation, what are the factors that influence the failures or locking of enrollments of the curricular components of the course?

2 THEORETICAL CONCEPTIONS ON EVASION AND ACADEMIC RETENTION

According to the Special Commission of Studies on the Brazilian Public Universities of the Ministry of Education (MEC) (BRASIL, 1996), among the major concerns of IES are: the qualification of its academics and the achievement of expressive results in terms of the number of graduates released each year for the professional exercise. However, the low number of graduates in the period determined by the courses continues being critical. The elements associated with this framework that stand out most refer to evasion and academic retention, phenomena that are increasingly present in universities. For a better understanding about them, it is relevant to mention some definitions proposed in the literature.

For Perleberg (2015, p. 24), "the evasion of undergraduate students will be considered in cases where the student abandons or cancels the enrollment, not returning the following semester". According to the Special Committee on Studies on Evasion in Brazilian Public Universities, evasion is defined "as the definitive exit of the student from his course of origin, without completing it" (BRASIL, 1996, p.15).

Regarding the concepts of retention, the main focus of this study, Moraes (2015) infers that retention is defined by the majority of researchers in education as a situation in which the student, for various reasons, can not advance in the course, delaying its conclusion. This situation is considered problematic to the academic scope because, among other factors, it contradicts the goals established in the Pedagogical Projects of the Courses (PPC) and in the PDI of institutions.

Therefore, the phenomenon of retention is considered as an obstacle to the educational system, either in the context of Basic Education or in Higher Education. In the conception of Campello e Lins (2008), retention occurs when the student does not complete the course within the normal period or chooses to lock the enrollment. For Pereira (2013, p. 37), "retention or prolonged stay is the condition in which the student demands a longer time than anticipated in the curricular matrix for paying the course load". On the same horizon and under a more specific perspective, Lautert, Rolim e Loder (2011) argue that the retention is shaped by the fact that the students do not advance in the course due to disapproval, failing to obtain the minimum concept for the approval.

Considering these last conceptions, in short, it is presumed that both evasion and academic retention are phenomena that may cause some disorders of a social, financial and Family nature to the academic. In relation to the institutional context, the phenomenon of retention has generated "an increase in the expenditure index [...] of Higher Education Institutions (IES), showing possible

points of failure in the teaching and learning processes" (DAITX; LOGUERCIO; STRACK, 2016, p. 154). Thus, it is emphasized that on this point of view the retention approach in the present study is based.

3 THEORETICAL FOUNDATION

This study is essentially based on the *Model for the Study of the Factors Associated with the Retention Process* proposed by Pereira (2013), adapted from the Bean and Metzner Conceptual Model of Nontraditional Undergraduate Student Attrition (1985). Pereira (2013) retained most of the variables that make up the original model. The main adaptations made refer to the substitution of certain variables for others more relevant to the Brazilian reality. With this same criterion, the author also replaced the nomenclatures of the groups of variables, seeking to use names that adequately express what they represent. Thus, the model of Pereira (2013) was considered more adequate for the purpose of this study, since it addresses the pre-admission and personal factors of the students, as well as the internal and external factors to the academic scope.

In general, in the proposition of Pereira (2013), the "personal characteristics and factors prior to admission", associated with "family context and financial conditions" or the "Institutional Environment" have inference about the "Academic Achievement", which in turn is the main determinant of the phenomenon of academic retention. However, it should be noted that the prolonged stay in undergraduate courses may be due to factors inherent in each of these separate groups. For example, situations relating to "family context and financial conditions" can be the direct cause for the academic failure of the individual, with no association with their "personal characteristics and factors prior to admission", according to Figure 1.

Figure 1 - Model for the Study of the Factors Associated with the Retention Process
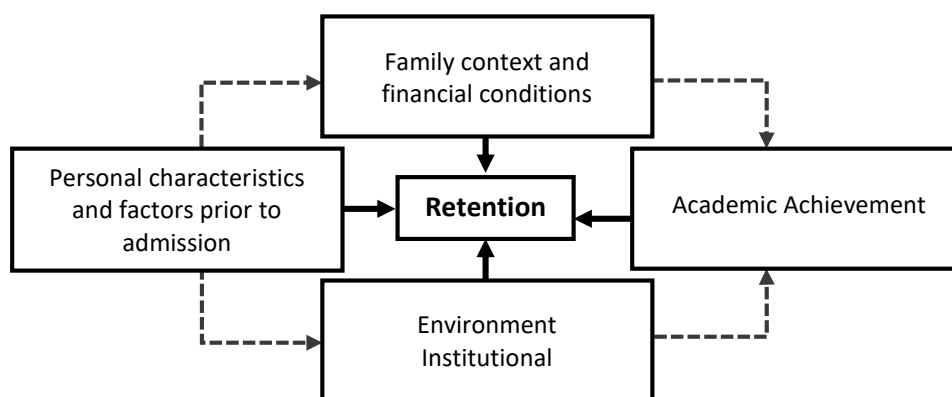
Source: Pereira (2013, p. 60)

According Robayo et al. (2019, p. 166), "the processes associated with education take into account multiple actors, such as family, teacher, educational institutions, social and cultural context, [...]". Like this, the groups of variables that make up this model cover the main elements inherent to the context of the academic routine of any higher education course. Thereby, it is satisfactorily applied to the development of the present study.

3 CONTEXT OF THE COURSES OF LICENSEE IN SCIENCES OF THE NATURE OF UNIPAMPA

Among the 64 courses offered by UNIPAMPA's 10 campuses, the Licensee of Science in Nature (LCN) is the only one offered on two campuses, located in the municipalities of Dom Pedrito and Uruguaiana. This course is intended for the training of teachers in the area of Natural Sciences, enabling professionals to teach Science at the Elementary level and to teach Biology, Physics and Chemistry at the Middle level.

Considering the context of this institution, first, in 2010, LCN was implanted on the campus of Uruguaiana, two years later, in 2012, the course was also offered on the Dom Pedrito campus. As described in the Course Pedagogical Project (PPC) of these degrees, the dynamics of the courses comprise the annual offer of 50 vacancies, with start of activities scheduled for the first semester of the year. The minimum term for the completion of the courses is nine semesters and the maximum of 18 semesters.

In both courses the classes are held from Monday to Friday at night and on Saturday mornings. Some curricular components have a timetable subdivided into theoretical and practical classes, such as: field trips, and didactic and laboratory practices (UNIPAMPA, 2013, 2018). In relation to the curricular matrix, in addition to the compulsory curricular components, this is composed of 420 supervised internship hours, in accordance with the Law of Guidelines and Bases of National Education – Law 9394 – published in 1996. Said time load is distributed between the Stages I, II, III and IV on Dom Pedrito's campus and the Internships I, II and III on the campus of Uruguaiana.

It should be noted that the minimum grade for student approval is 6.0 and the minimum frequency in the hours of the curricular component is 75%. As for the registration lock, this can be: Total, when it is the whole semester; or Partial, when it is of certain curricular components, as provided in Resolution 29/2011 (UNIPAMPA, 2011). The document further states that the prospective trainee who has up to two components in arrears will be able to do so through the Special Modality of Offer of Curricular Component. It should also be noted that, according to the

aforementioned Resolution, "the activities of recovery are assured to the student and promoted throughout the development of the curricular component, in a perspective of overcoming insufficient learning" (UNIPAMPA, 2011, p. 11).

In addition, PPCs instruct students to complete 200 hours of Supplementary Graduation Activities (ACG), which have as main objective to broaden the knowledge of the future teacher through independent initiatives, actions that promote the intellectual growth contemplating the areas of teaching, research, extension and culture. To this end, academics may participate in programs such as: Scholarship Performance Program (PBDA) and the Introduction to Teach Scholarship Program (PIBID), both with financial assistance.

4 METHODOLOGY

Previous to the development of the research, the project was submitted to the Ethics and Research Committee (CEP) of UNIPAMPA through the Brazil Platform, meeting the requirements of the National Health Council (CNS) in accordance with Resolution 466/12 (II. 22), obtaining approval under opinion nº 1.992.086. After the approval of the research by said committee and by signing the Term of Free and Informed Consent (TCLE) by the participants, it was started.

The present study can be classified as a field research with mixed approach, mixing qualitative and quantitative aspects (CRESWELL; CLARK, 2013; MASCARO, 2015; MINAYO; SANCHES, 1993). The target audience was academics duly enrolled in the first half of 2017, in the third, fifth, seventh and ninth periods of the two UNIPAMPA LCN courses, totaling eight classes surveyed. There was participation of 121 students, being 73 of the course of Dom Pedrito and 48 of the course of Uruguaiana. However, only those academics who failed and/or locked their enrollment in at least one of the curricular components of the course were considered as research subjects. Thus, the final sample was 87 subjects, of which 52 belong to LCN of the Dom Pedrito campus and 35 of the Uruguaiana campus.

For data collection, a structured questionnaire was used according to the model proposed by Moraes (2015), which has undergone some adaptations to meet the specificities of the research. The instrument consisted of 21 questions and 28 statements, organized in four axes identified by the letters A, B, C and D, as shown in Figure 2.

Figure 2. Structure of the data collection instrument used

Axis	Definition	Number of questions or statements
A	Personal characteristics/subjects' profile	21 questions
B	Factors related to individual characteristics and academic performance	08 statements
C	Factors related to LCN and UNIPAMPA courses	14 statements
D	Sociocultural and economic factors external to the institution	06 statements

Source: Adapted from Moraes (2015)

It should be emphasized that Axis A, related to the subjects' profile, was composed of closed questions (yes or no), of multiple choice (with more than two alternatives) and open questions (of free expression) (MARCONI; LAKATOS, 2003). Meanwhile, the structure of the axes B, C and D had a linear character, constituted by statements that were evaluated from a five-degree intensity scale, where the value 1 represents no influence and the 5 corresponds to the total influence in the decisions of the academics.

Prior to the application of this data collection instrument, it was validated by means of a pre-test, applied to 25 academics of the Agribusiness Technology course at UNIPAMPA, *campus* Dom Pedrito, since it constitutes a small population similar to the subjects of the research (MARCONI; LAKATOS, 2003), since they attend a night course, such as LCN course lecturers. The data obtained in the pre-test were submitted to the analysis of the internal consistency indicator *Alpha de Cronbach,* through software *Statistical Package for Social Sciences* (SPSS) version 18 and the reliability of the axes was verified from the correlation between the answers, considering the means obtained and the standard deviations (HAIR et al., 2007). As these authors, the coefficient can range from 0 to 1, which indicates the level of reliability, considering that values below 0.6 are considered inconsistent. The result obtained for the instrument used in this research obtained satisfactory general average (0,7). It should be noted that this quantitative data analysis procedure was performed only with the affirmations of the axes B, C and D, since the Axis A questions about the profile of the subjects were structured in another format, which could be analyzed differentiated.

Regarding the analysis of the data obtained with the students of the LCN courses, we proceeded in a similar way. First, the information was handled through the software *Microsoft Excel* and *Statistical Package for Social Sciences* (SPSS), which provided descriptive analyzes such as frequency, percentages, maximum and minimum values, general mean and per campus, as well as their respective standard deviations. From this, the perceptions of the academics were identified in

relation to the factors that possibly influence the retention in the LCN courses of UNIPAMPA, considering the three axes investigated: Factors related to personal characteristics; Factors related to the course of LCN and UNIPAMPA; Factors related to sociocultural and economic factors.

5 RESULTS AND DISCUSSIONS

Profile of subjects

From the analysis of the data obtained in axis A of the data collection instrument, in Table 1 the main aspects regarding the profile of the subjects surveyed by campus and the total are presented.

Table 1 - Profile of subjects researched at LCN Dom Pedrito and Uruguaiana

Profile of subjects		Dom Pedrito	Uruguaiana	Total (%)
Age group		18 a 53 anos	18 a 48 anos	
Sex	Female	44 (84.61%)	19 (54.28%)	63 (72.41%)
	Male	08 (15.38%)	16 (45.71%)	24 (27.58%)
Marital status	Married/Stable Union	17 (32.69%)	16 (45.71%)	33 (37.93%)
	Single	34 (65.38%)	19 (54.28%)	53 (60.91%)
Work situation	Work	37 (71.15%)	25 (71.42%)	62 (71.26%)
	Do not work	15 (28.84%)	10 (28.57%)	25 (28.73%)
School of Basic education	Public	48 (92.30%)	26 (74.28%)	74 (85.05%)
	Private	04 (7.69%)	04 (11.42%)	08 (9.19%)
	Public and Private	-	05 (14.28%)	05 (5.74%)
Training in Basic education	Regular High School	31 (59.61%)	30 (85.71%)	61 (70.11%)
	Normal course (teaching)	14 (26.92%)	04 (11.42%)	18 (20.68%)
	Youth and Adult Education (EJA)	07 (13.46%)	01 (2.85%)	08 (9.19%)

Source: Research data

According to the data presented in Table 1, it can be seen that, in general, the majority of the students in a situation of retention and / or enrollment are female, single marital status, work during the day and, in Basic Education, they attended secondary and elementary school in schools public schools.

Factors that influence academic retention

According to the Special Commission of Studies on the Brazilian Public Universities of the Ministry of Education (MEC) (BRASIL, 1996, p.14) "the complexity of social, academic, economic and cultural factors intervenes in university life". Thus, it is opportune to know the main implications of these factors in the academic performance of the subjects, since they may compromise the success of their professional training.

In relation to Axis B – "Factors related to individual characteristics", composed of eight statements, Table 2 presents the panorama obtained for the courses of the Dom Pedrito and Uruguaiana campuses, as well as a general appreciation of them.

Table 2 - B-axis descriptive statistics "Factors related to individual characteristics"

STATEMENT	GENERAL		DOM PEDRITO		URUGUAIANA	
	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
B1- Career choice still very young.	2.15	1.49	1.82	1.32	2.62	1.61
B2- The school education that had in the High School was insufficient or made difficult the follow up of the course.	3.10	1.46	3.11	1.63	3.08	1.19
B3- Difficulties in adapting to the university's academic dynamics and to university life: sociocultural changes, isolation, etc.	2.44	1.38	2.29	1.28	2.65	1.51
B4- Incompatibility between work schedules and course subjects.	2.45	1.58	2.37	1.59	2.57	1.57
B5- Frustration with course due to prior misinformation regarding him.	1.90	1.21	1.78	1.20	2.08	1.22
B6- Weak integration level and/or relationship with classmates.	1.66	1.16	1.31	0.78	2.17	1.42
B7- Difficulties faced by emotional problems (for example: attention deficit, psychological problems, depression, addictions, etc.).	2.08	1.50	1.86	1.44	2.40	1.55
B8- Difficulties to focus on academics.	3.03	1.35	3.11	1.29	2.91	1.46

■ Higher Averages ■ Lower Averages

Source: Research data

Considering the scale for the evaluation of the affirmations, between levels 1 and 5, in which the minor represents no influence and the greatest total influence, minimum and maximum values were obtained for all the affirmatives in the two campuses. This indicates the divergence regarding the indication of the factors that possibly influence the academic retention in UNIPAMPA's LCN courses.

According to the results of Table 2, in general, for most respondents, school education in secondary school was insufficient to follow the course, being the factor that obtained the highest average in both the Dom Pedrito campus (3.10), and at the Uruguaiana campus (3.08). This means that, for most of the researched students, this factor was the one that most impacted the retention in the course. For Dom Pedrito's LCN, 47% of the students evaluated the affirmative B2 as very influential (level 4) and totally influential (level 5), it should be noted that for the latter, the

percentage was significantly high (31.4%). In relation to the Uruguaiana course, each of these levels corresponded to 31.4% of the graduates. This problem was also found by Ferrete e Ferrete (2017) in a case study with academics from a Mathematics Teacher Education Course at the Federal Institute of Sergipe. According to the authors, "90.9% of the students said they had difficulties with the contents of the elementary and high school and, therefore, they felt very difficult to study certain subjects [...]" (FERRETE; FERRETE, 2017, p. 163).

According to the data presented in Table 1, more than 85% of respondents are from public schools. On this reality, Oliveira (2000) says that the large number of places available for high school is disproportionate to the quality of education, especially in public schools, since not everyone will have the same levels of knowledge. From this, it is presumed that the formative gaps antecedent to the entrance in the university can seriously compromise the success of the student in Higher Education. According to Zago (2006), the obstacle may be mitigated through the provision of courses by high school graduates, which may be unfeasible for most students due to financial issues.

In the sequence, the factor "Difficulties to focus on academics" also presented a relatively high general average (3.03), being 3.11 for Dom Pedrito's course and 2.91 for Uruguaiana's. Considering that 37 out of 52 LCN's academics surveyed perform paid work and 25 of the 35 students investigated in the Uruguaiana course also act in this way, it is understood that the unavailability of time may interfere with their dedication to studies. With this, it is verified that one or more inferences present in the Pereira's (2013) model, in this case referring to the personal characteristics and/or financial conditions, that directly or indirectly imply in the academic performance of the individuals.

Similar data were obtained by Moraes (2015) in his research with the Portuguese major of the Federal University of Espírito Santo (UFES), in which a significant portion of the academics indicated that the difficulties of dedication to studies have a strong influence on academic performance. This situation often culminates in retention in the course.

As for the factor that presented the lowest mean (1.31) at the LCN in Dom Pedrito campus, stands out the "Weak level of interaction and/or relationship with classmates". It should be noted that, for this assertion, the standard deviation was low (0.78), which expresses the homogeneity of the indications, which were predominantly: no influence (80.4%) and little influence (13.7%). In this way, it is inferred that, according to the researched academics, this is the factor that least implies in the possible retention in the course.

Regarding the LCN of the Uruguaiana campus, frustration with the course, due to previous misinformation about him, was pointed as less influential factor for the academic retention in this licensee, which averaged 2.08. However, it was observed that the value obtained was median and that the standard deviation was high (1.22), indicating disagreement among subjects.

The C-axis "Factors related to the course of LCN and UNIPAMPA", structured with 14 statements regarding LCN and institutional scope, is presented in Table 3, together with the description of the means obtained and the respective standard deviations observed. The results refer to the two courses studied in general and individually.

Table 3 - C-axis descriptive statistics "Factors related to LCN and UNIPAMPA courses"

STATEMENT	GENERAL		DOM PEDRITO		URUGUAIANA	
	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
C1- Curriculum of the course outdated, incompatible with the current market reality and still very extensive and rigid.	1.89	1.20	2.00	1.25	1.72	1.12
C2- Complex and difficult to understand subjects.	2.89	1.25	2.96	1.26	2.78	1.24
C3- Little objective criteria used in student assessment.	2.24	1.21	2.13	1.17	2.42	1.27
C4- Lack of pedagogical training (didactic) or lack of interest of the teachers of the course.	1.78	1.18	1.50	0.96	2.24	1.37
C5- Insufficiency of institutional programs for the student (monitoring, scientific initiation).	1.92	1.22	2.05	1.28	1.72	1.09
C6- Insufficient support structure for undergraduate courses: laboratories, computers, technical support, etc.	1.91	1.27	1.90	1.28	1.93	1.27
C7- Insufficient number of teachers.	1.48	0.85	1.57	0.93	1.33	0.69
C8- Lack of follow-up programs for students with income difficulties.	2.77	1.48	2.88	1.46	2.60	1.51
C9- Existence of disciplines with high failure rate, retaining students for several periods.	2.98	1.53	2.98	1.48	3.00	1.62
C10- The course is offered in an incompatible schedule.	1.57	1.12	1.69	1.27	1.39	0.82
C11- Lack of academic orientation: how to study, how to research, etc.	1.96	1.15	1.78	1.09	2.24	1.22
C12- Lack of academic orientation: how to study, how to research, etc....	1.69	1.03	1.75	1.20	1.60	0.70
C13- Lack of interaction between disciplines (interdisciplinarity).	2.52	1.39	2.48	1.35	2.60	1.47
C14 – Facility for locking the course.	1.92	1.45	1.94	1.52	1.90	1.35

■ Higher Averages ■ Lower Averages

Source: Research data

As shown in Table 3, the statement C9, "Existence of disciplines with high failure rate, retaining students for several periods", obtained the highest mean among the others, both for the general sample (2.98) and for Dom Pedrito (2.98) and Uruguaiana (3.00). In view of this linearity, it is inferred that in both courses there are cases of more than one failure in the same component, which may aggravate the retention situation of the academic, since all course subjects are offered once a year. However, it is observed that the standard deviations for these means were considerably high, indicating a disagreement between the perceptions of the respondents. In addition, it should be considered that the LCN course, because it is an integration of the areas of Biology, Physics and Chemistry, has curricular components that are considered abstract and require prerequisites. Therefore, in many cases it is not feasible for the student to enroll in a later component, if he failed or locked the prerequisite curricular component in the area, which causes a considerable delay in completing the course.

Aligned with the factor previously discussed, the statement C2 "Complex and difficult to understand subjects", presented the second highest average for this axis: general appreciation (2.89); Dom Pedrito campus (2.96); Uruguaiana campus (2.78). It is observed that the averages were uniform and the standard deviations high for both courses, indicating that there was significant variability in the evaluation of the students. As for the percentage obtained for this factor, in the course of Dom Pedrito, the level 1 (no influence) was indicated by 11.8% of participants, level 2 included 29.4%; level 3, 25.5%; 4 corresponded to 17.6%; and level 5 (total influence) accounted for 15.7%. Regarding the Uruguaiana course, the results were: 18.2% for level 1; 24.2% for level 2; 27.3% for level 3; 21.2% for level 4; and 9.1% for level 5. From these results, it can be seen that for a significant number of respondents, the existence of complex and difficult-to-understand curricular components is considered a relevant factor for academic failure, generating retention.

On this point, it is possible to emphasize the conception of Teixeira (2008) who indicates a probable relationship between basic training and learning in higher education. As most academics generally come from public schools, the author assumes that these subjects have difficulties in correlating the knowledge acquired in High School with the content taught in the undergraduate program. This obstacle is often due to the lack of learning of basic contents, such as Mathematics.

In view of the aforementioned context, it is evident the correlation predicted by Pereira (2013), among the factors prior to the entry of academics, in the case of basic training, and the institutional environment, considering the course and its curricular matrix.

Another factor evidenced by the study was "Lack of support and follow-up programs for students with income difficulties in some key course subjects", statement C8, pointed by the academics as influential in the phenomenon of retention. For this factor, 34.7% of the participants of the Dom Pedrito's population reported levels 4 and 5 that indicated a great deal of total influence, with the assertion obtained averaging 2.88. This result evidences that the deficit of internal policies to the institutional environment also infers in the academic success, exposing a situation of alert to the institution since this context can contribute directly to numerous student retentions, according to the proposal of the model of Pereira (2013).

As for the Uruguaiana campus, the levels mentioned were less significant (27.3%), resulting in a slightly lower average for this campus (2.60). In view of this panorama, it is verified that this factor is more relevant in the perception of the scholars of Dom Pedrito in view of those of Uruguaiana. It should be noted that, for both cases, the standard deviation was also relatively high, denoting divergence between evaluations.

The lowest averages of this axis were for statement C4: "Lack of pedagogical training (didactic) or lack of interest of the teachers of the course" (average of 1.50) for the course of the Dom Pedrito campus and the affirmation C7: "Insufficient number of professors" ((mean of 1.33) for the Uruguaiana course.

Results about Axis - D "Socio-cultural and economic factors" are shown in Table 4, which indicate the means and standard deviation obtained for the six statements that constitute said axis.

Table 4 - D-axis descriptive statistics "Socio-cultural and economic factors"

STATEMENT	GENERAL		DOM PEDRITO		URUGUAIANA	
	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
D1- Particular financial difficulties that make attendance at the course impossible.	1.90	1.35	1.42	0.87	2.66	1.61
D2- Need to work while attending the course.	3.08	1.76	2.88	1.74	3.39	1.76
D3- Lack of time because you attend or attend another course simultaneously.	1.74	1.21	1.63	1.15	1.90	1.30
D4- With high school or technical course, you get jobs as good as undergraduate courses, so prioritize the work and not the course.	1.88	1.34	1.86	1.44	1.90	1.20
D5- Personal or family health problems.	1.97	1.46	2.00	1.52	1.93	1.39
D6- Lack of appreciation of their study by family and friends.	1.83	1.33	1.63	1.22	2.15	1.46

Higher Averages   Lower Averages

Source: Research data

The results expressed in Table 4 indicate that the statement D2, "Need to work while attending the course", obtained the highest average for the degrees of Dom Pedrito (2.88) and Uruguaiana (3.39), obtaining a general average of 3.08. This indicates the influence of this factor in the possible retentions within the UNIPAMPA LCN courses.

Although the variability among the answers was considered, due to the high standard deviation for the affirmation, a significant percentage of scholars who considered it very and totally influential were verified. Thus, for the Dom Pedrito campus course, 46% of the respondents indicated such levels, and for the Uruguaiana campus, this rate was 57.6%.

In Antunes's (2013, p. 13) conception, work is much more than a source of wealth, but "the basic and fundamental condition of all human life" from which there is no way to untie, this is undeniable. However, it is understood that sometimes it no longer represents only one area of our life, but one that dominates all the others. In this context, it is perceived that for students with reproaches or lockups in the courses investigated, work is prioritized in relation to academic activities, either by the need for self-sustenance or by their family or by having won a job with good remuneration. Despite the diverse justifications, this peripheral position that the academic activities occupy in the life of the academics has direct relation with its income and permanence within the university.

Following, according to the indications of the researched ones of the Dom Pedrito campus, the factor described in the affirmation D5: "Personal health problems or family problems (only person available to accompany family members)", also exerts influence on academic retention. Sometimes this type of situation causes physical, psychological and emotional wear and tear on academics, which can considerably compromise performance in their studies. The mean obtained for this factor was 2.00 (considered median), however, it represents the second largest among the other affirmations. Regarding the Uruguaiana course it was evidenced that the second most relevant factor was the one described in the affirmation D1, "Particular financial difficulties that make it impossible to attend the full course", which obtained a mean of 2.66. It was found that 42.5% of the participating academics indicated that such difficulties strongly influence (4) or totally (5) their retention in the course. This situation indicates the importance of financial assistance, granted through institutional programs to academics who do not have an employment relationship, to take advantage of the curricular components and stay in the course. In contrast, this factor was not considered relevant by the Dom Pedrito campus academics, who obtained a lower mean among the others (1.42), and for 88.5% of them, the D1 affirmation has little or no influence.

Resuming the model of Pereira (2013) In this context, individual particularities, such as the academic health issue, inherent in the group "Personal characteristics" associated with the financial conditions, referring to the need to work during the course and / or the family context, in the case of relatives with health problems, can significantly implicate in academic failure. Therefore, it is inferred the need of institutional support to the academics in such situations, in order to favor their formation trajectory and, finally, the completion of the course in the envisaged time.

Regarding the less significant affirmations for the retention in the perception of the academics of Uruguaiana we have: D3 "Lack of time because you attend or attend another course simultaneously", and D4 "With high school or technical course, you get jobs as good or better than undergraduate and then choose to work, leaving the course in the background" presenting the lowest averages (1.90). Regarding the factor of affirmation D3, 69.7% of the students evaluated it as little or not influential, and for the factor of affirmation D4 this index corresponded to 72.7%. Such a result means that for most course undergraduates, these factors do not influence retention.

5 FINAL CONSIDERATIONS

Retention is a phenomenon that is part of the educational scenario at all levels of education, and is considered a consequence of student failure, mainly due to disapproval. Despite being defined by some international authors, such as student persistence in completing their studies, in this research retention was approached as an obstacle to success in academic performance, postponing the completion of the course.

Thus, it is considered that this study contributed to elucidate relevant aspects about the problem of academic retention in the context of UNIPAMPA's LCN courses, a context that has not been researched in the area literature. The focus given to the retention in this work was in the sense of prolonged stay in the courses, which causes delay in completing the courses.

Regarding the possible factors related to academic retention in UNIPAMPA's LCN courses, Dom Pedrito and Uruguaiana campuses in RS, the perception of the academics investigated included the training obtained in High School, considered insufficient to follow the course. As a result, the existence of curricular components difficult to understand, lack of programs to support student performance and the need to work while attending the course were other factors listed as influential for the occurrence of this phenomenon in the scope of courses.

The results indicated relatively low means for the statements related to the institutional factors (C1, C5, C6, C11 and C12) and to the teachers' methods (C4 and C7). From the evidence obtained, it is not possible to affirm that these factors influence in a significant way the academic retention in the scope of the UNIPAMPA LCN. In view of these findings, it is considered that the two courses present some factors that resemble the academic performance of their tickets, despite specifics.

Based on the findings of the research, some measures can be taken that can be taken by the coordination of UNIPAMPA's LCN courses, in order to minimize this problem:

- offer of curricular components for leveling the concepts developed in basic education, with the purpose of providing theoretical subsidies so that the students can follow the course;

- creation of a database in order to monitor academic achievement, aiming for interventions when necessary;

- flexibility of time in the offer of complementary actions to graduation, such as: lectures, workshops, monitoring, among others, that contemplate the academics who work;

- institution of optional curricular components that meet the demands of academics (difficulties related to certain areas of knowledge).

Such actions may be extended to other undergraduate courses that have significant retention rates. However, it is necessary to investigate each context, since, as demonstrated by the results of the present study, there are specificities for each course.

Therefore, it is emphasized that the general purpose of this study, through a direct approach with the students in a possible retention situation and the use of the fundamentals of the *Proposed Model for the Study of the Factors Associated with the Retention Process* from Pereira (2013), is a relevant premise applicable to any other institutional context. However, it should be inferred the need for more comprehensive research involving managers, teachers and other staff of the institutions in order to gain a broader understanding of the real causes of academic retention.

Thus, it is noteworthy that, in the scope of UNIPAMPA, as in other higher education institutions, this topic is far from being exhausted. Thus, based on the results presented by this study, it is expected: to provide discussions and debates on the subject; to support possible institutional policies to support academics with difficulties to follow the course; to stimulate future research concerning the phenomenon of retention in the other courses of this multicampi institution, as well as in other Brazilian institutions that face the same problem.

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