

# ΣΟΦΙΑ—SOPHIA

DOI: <http://dx.doi.org/10.18634/sophiaj.14v.2i.793>

## High permanence of students in a higher education program

Liliana María Pérez \*\*, Isabel Muñoz \*\*\*, Amparo López Higuera\*\*\*\*, Alejandra Erazo\*\*\*\*\*, Ana María Valencia\*\*\*\*\*, Víctor Rojas\*\*\*\*\*, Betty Viveros\*\*\*\*\*, Paola Avellaneda \*\*\*\*\*

\*\* Speech Therapist. Specialist in university teaching, professor at the Speech Therapy Department, Faculty of Health Sciences, Universidad del Cauca, Popayán, Colombia. Contact email: [Imperez@unicauca.edu.co](mailto:Imperez@unicauca.edu.co)

\*\*\* Speech Therapist. Master's degree in Epidemiology, full-time professor, Speech Therapy Department, Faculty of Health Sciences, Universidad del Cauca, Popayán, Colombia. Contact email: [imunoz@unicauca.edu.co](mailto:imunoz@unicauca.edu.co)

\*\*\*\* Speech Therapist. Master's degree in Child Development, Specialist in Child Pedagogy, Assistant Professor, Speech Therapy Department, Faculty of Health Sciences, Universidad del Cauca, Popayán, Colombia. Contact email: [alopezh@unicauca.edu.co](mailto:alopezh@unicauca.edu.co)

\*\*\*\*\* Students at the Speech Therapy Program, Faculty of Health Sciences, Universidad del Cauca, Popayán, Colombia.

### Article Information

Received: December 13, 2017

Revised: February 16, 2018

Accepted: June 30, 2018

### How cite:

Pérez, L.M., Muñoz, I., López, A., Erazo, A., Valencia, A.M., Rojas, V., Viveros, B., Avellaneda, P. (2018) High permanence of students in a higher education program. *Sophia*, 14 (2), 24-34



ISSN (electrónico): 2346-0806 ISSN (impreso): 1794-8932



UNIVERSIDAD  
La Gran Colombia

Fundada en 1951

Sophia-Education, volumen 14 issue 2. English version

## Abstract

The institutions of higher education face phenomena that affect the successful course of the university careers of their students, among these, their high permanence brings besides of economic implications for the institution, the students and their families, a high emotional cost. In order to know this phenomenon within Universidad del Cauca in the Speech Therapy Program, a study was carried out with the objective of establishing the determinants of the high permanence of the students. The methodology was quantitative with descriptive scope; 107 students were selected through a random sample, by reviewing the academic record; there were taken into account as inclusion criteria, enrolled students who at the time of the study had not graduated or who postponed their studies for at least one semester, achieving a sample of 60 students. The results showed that the proportion of high permanence, by sex, was higher in the group of men, in 22% (21), the age of the population for this condition was between 25 and 34 years, corresponding to 62% (37). 65% (39) claimed to have or have had a poor academic performance in the course of the career. It was concluded that the causes of high permanence were mainly related to low academic performance.

**Keywords:** Students, factors, permanence, university.

## Introduction

There are different educational phenomena which, originated by different causes, alter the successful course of a university career. Dropping out, for example, has been a subject widely discussed within higher education, this was reported in 2010 by the Ministry of Education of Colombia (MEN, for its initials in Spanish) in 14% for the area of health sciences; in addition to dropout, there appears high permanence or academic lag in the university educational reality. The latter corresponds to the presence of students who remain in an institution pursuing a career, beyond the expected time; in these cases there is no dropping out, but the students lag semester to semester, making the years projected for the completion of the studies to be extended.

The high permanence in higher education institutions affects not only the academic system, but also the student and their families; especially if one considers that university education in Colombia must face various challenges, including those related to financing, autonomy and the quality of its administrative and educational processes. The students, on the other hand, must invest time and economic resources in order to remain in the program they have chosen to fulfill the academic objectives and achieve their graduation.

If terminal efficiency is understood as “the comparative relationship between the number of students who enroll for the first time to pursue a professional career and those of the same generation who manage to graduate” (Camarena, Chávez and

Gómez, 1984: 1) in an expected time, the high permanence implies that some students take more time to comply with the curricular requirements of their academic program.

In this regard it is important to consider the factors related to high permanence in academic programs, such as personal, academic, socioeconomic and institutional ones, which determine to a greater or lesser extent the presence of student lag, as it is sustained by (MEN, 2009).

The phenomenon of high permanence is an issue of great importance in higher education, considering the implications for quality and the economy it generates. Research on this topic is therefore important, considering that it delves into the knowledge about the causes that are determinant for students not achieving the curricular objectives in the expected time, which in turn contributes to the construction of follow-up strategies to this population.

For this reason, a research was carried out within the Speech Therapy Program of Universidad del Cauca, seeking to know the factors that affected the high permanence of students between 1998 and 2012.

## Materials and methods

A descriptive cross-sectional study was carried out in the Speech Therapy Program of Universidad del Cauca; with a social, political and pedagogical approach. The population studied included all the

students enrolled in the first semester between 1998 and 2012, who delayed their studies at least one semester; they were selected by reviewing the academic record available in the Information System, Enrollment and Academic Control (Simca, for its initials in Spanish).

With this selection process, it was obtained an initial sample of 107 students who met the inclusion criteria, of which only 60 voluntarily decided to participate in the study and sign the informed consent. A structured format adapted from the survey of the National Association of Universities and Institutions of Higher Education was applied (Romo and Fresan, 2012), after having been submitted to a pilot test. This instrument included questions on socio-demographic, personal, academic, family and work variables. In addition, a univariate and bivariate analysis was carried out through the statistical package SPSS-19.

## Results

The results obtained, according to the respondents, showed that low (academic) performance was the factor that had the highest incidence for high permanence. The most significant results of the study are presented below.

The socio-demographic data in the study describe that 65% of the participants were women and 35% men; 71% (43) of them singles. Regarding age, 62% (37) of the participants were aged between 25 and 39 years, and with respect to the variable origin (hometown), it was observed that 70% (42) of the students were born and lived in Popayán city.

Table 1 shows that the prevalence of high permanence in the Speech Therapy Program was 30%, represented in 107 students; of these, only 56% (60) participated in the study. The proportion of high permanence by sex, for the 1<sup>st</sup> academic period of the year 2013 (356) reflects that in the group of men, this situation was greater by 22% (21/93); compared to women, who were 14 % (39/263).

**Table 1.** Distribution of the prevalence of high permanence for students of the Speech Therapy Program.

Total prevalence value	Women	Men
Eligible population: 30% (107) IC 25,1 - 34,9	—	—
Participant population: 16.8 (60) IC 12,8 - 20,8	65% (39) IC 53,3 - 75	35 % (21) IC 25 - 46,7
Total enrolled in the program (356)	14% (39/263)	22% (21/93)

Source: Authors

Regarding the relationship of high permanence and variables of social and family origin (Table 2), it is observed that 86% of the sample perceived their family environment as healthy, 65% said they had not presented any domestic calamity or health issues. Of the total population, 71% (43) reported not having been pregnant or being parents, while 28.3% that they were.

**Table 2.** Distribution of variables of social and family origin in students with high permanence in the Speech Therapy Program.

Variables	n60	%	CI 95%	
Perceptions of students on their family environment	Healthy	52	86,7	78,3 - 95
	Unhealthy	8	13,3	5 - 21, 17
	Total	60	100	

Calamity and health issues	None	39	65	52,0 - 77,9
	(Some) illness	17	28,3	16,0 - 40,5
	Death of a relative	4	6,6	1,8 - 16,1
	Total	60	100	
Pregnancy or parenthood (the state of being a parent)	Si	17	28,3	16,0 - 40,5
	No	43	71,6	59,4 - 83,9
	Total	60	100	

Source: Authors

**Table 3.** Distribution of academic and institutional variables in students with high permanence in the Speech Therapy Program.

Variables		n60	%	CI 95%
High school institution of the student	State	38	63,3	50,3 - 76,3
	Private	22	36,3	23,6 - 49,6
	Total	60	100	
Career guidance and orientation	Yes	21	35	22,3 - 37,4
	No	39	65	52,09 - 77,9
	Total	60	100	
University academic performance	Good	20	33,3	20,5 - 46,0
	Bad	29	48,3	34,8 - 61,8
	Just acceptable	11	18,3	7,7- 28,9
	Total	60	100	
Teacher support	Yes	48	80	69,09 - 90,9
	No	12	20	9,04 - 30,9
	Total	60	100	
Perception of the relationship teacher-student	Good	13	21,6	10,4 - 32,9
	Just acceptable	25	41,6	28,3 - 54,9
	Bad	22	36,6	23,6 - 49,6
	Total	60	100	
Perception of the student about the quality of the program	Good	39	65	52,09 - 57,9
	Just acceptable	20	33,1	20,5 - 46,09
	Bad	1	1,6	0,04 - 8,9
	Total	60	100	
Level of satisfaction with the program	Satisfied	40	66,6	53,9 - 79,4
	Unsatisfied	20	33,3	20,5 - 46,09
	Total	60	100	

Source: Authors

Table 3 presents the results obtained in relation to academic and institutional variables; we found out that most of the students of the Speech Therapy program come from state schools in 63% (38); however, there is no marked difference compared to 36%, (22) who graduated from private institutions. In relation to career guidance and orientation received by students prior to entering the university, it was found that 35% (21) reported having had it; however, a number higher than 65% (39) of students said they did not have it. In terms of academic performance, most of the students claimed to have or have had a poor academic performance in the course of their career, 48% (29); followed by 33% (20) who defined it as good, and the remaining 18% (11) who reported it as just acceptable. In this regard, it was possible to determine that 17 of them repeated 2 different subjects; 10 repeated 4; and 14 have repeated 3 different subjects.

Regarding teacher support, 80% (48) of the students said they had received this support during their academic training, and made reference to aspects such as how to evaluate and correct their work, contents reviewed in their tasks, punctuality of teachers in the presentation of the programs of the subjects, delivery of evaluation results, master classes, pertinence of subjects, clarity in the transmission of the concepts, accessibility in the treatment and acceptance to the discussion of their points of view.

On the perception of the student about the academic relationship with the teacher, 42% of the respondents (25) said they had maintained a just acceptable relationship with their teachers, this being the highest figure; 21.6% of the students reported to have had a bad relationship; and 22% (13) reported it as good, in their condition as repeaters (those who repeated the course).

With regard to the perception of the student about the quality of the program, 65% (39) of students in high permanence condition rated the program as good, and 33% (20) as just acceptable. Finally, 67% (40) of the total of respondents said they were satisfied with the program they chose, compared to 33% (20) who said the opposite.

Table 4 shows the results of the distribution of the socioeconomic and labor determinants; in this respect, it was found that of the total population, 91.6% (55) of the students depended economically

on their parents, while 8.3% (5) depended on their brothers; that is, that 100% of the students in the sample were economically dependent. Regarding scholarships and forms of financing, it was found that 96.6% (58) of the students in high permanence condition said they had not received scholarships or any form to finance their career, compared to 3% (2) who did have this type of aid. Regarding the student's work activity, 71.6% (43) reported not having worked during the course of their career, while only 28.3% (17) reported having performed some work activity.

**Table 4.** Distribution of socioeconomic and labor variables in students with high permanence in the Speech Therapy Program

Variables	n60	%	CI 95%	
Parents		91,6		
	Siblings			
Economic dependence				
		55	8,3	81,6 - 97, 2
		5		2,7 - 18, 3
		100		
Total	60			
Scholarships and financing forms				
	Si		3,33	
	No	2	96,6	0,4 - 11, 5
			88,4 - 99,5	
		100		
Total	60			
Work activity of the student				
	Si		28,3	
	No	17	71,6	16,0 - 40, 5
	43		59, 4 - 83,9	
		100		
Total	60			

Source: Authors

Regarding bivariate analysis, the crossings of variables allowed to find some significant data:

Table 5 presents the relation between the variables 'sex' and 'pregnancy' or 'fatherhood'; it was found that although most of the students did not face these situations, 33% (13) of women became pregnant while in undergraduate studies. In the case of men, 19% (4) faced paternity, which adds 52% of students who presented high permanence and were parents.

Regarding work activity, it was found that the percentages of students who work in parallel to their studies are similar among men, with 29% (6);

and women with 28% (11); however, the majority of students with high permanence did not carry out any work activity.

In relation to teacher support for students in a situation of high permanence, greater counseling was found for women in 85% (33), compared to 71% (15) for men. Regarding calamity and health issues, women have the highest frequency of illness with 21.7% (13), compared to 6.7% (4) in men. However, there is a large number of students who did not report problems associated with their health or adverse family situations.

Regarding the variable “academic performance” in relation to “age,” the results showed that students aged between 25 and 29 years are those who show bad or just acceptable academic performance; which is understandable considering that in terms of the relationship between the age of enrollment and the progress of the training, there is a delay and a late graduation projection. The results also showed that students who reported requesting and receiving teacher support, perceived their performance as bad.

**Table 5.** Distribution of students in high permanence according to sex, with variables of social, family and work origin.

Variable	Pregnancy or fatherhood		Total	
	Yes	No		
Sex	Man	4	17	21
	%of total	19%	81%	100%
	Women	13	26	39
	% of total	33%	67%	100%

  

Variable	Work activity of the student			
			Total	
Sex	Man	6	15	21
	%of total	29%	71%	100%
	Women	11		
	% of total	28%	72%	100%

  

Variable	Teacher support		Total	
Sex	Man	15	6	21
	%of total	71%	29%	100%
	Women	33	6	39
	% of total	85%	15%	100%

  

Variable		Calamity/illness		Death of a relative
		None	s	
Sex	Man	15	4	2
	%of total	25%	6,70%	3,30%
	Women	24	13	2
	% of total	40%	21,70%	3,30%

Source: Authors

Regarding the crossing of academic performance variables with working conditions, pregnancy or paternity, calamity and health issues (Table 6), no relationships were found indicating that the latter have a percentage relationship with high permanence; although it is important to indicate that in particular cases, conditions such as motherhood or the death of a loved one may cause a delay in the academic progress, semester to semester.

## Discussion

High permanence, as it equally happens with academic performance, can be explained by the: “Interaction between multiple capitals at stake” (MEN, 2009: 76); among which, cultural, social, psychological and material resources must be taken into account; factors that have also been related to low academic performance and dropping out, which allows us to conclude that there is a close relationship between high permanence and these other educational phenomena. The results of the research carried out in the Speech Therapy Program reveal important aspects for analysis, such as the prevalence of high permanence, which was 30% (107) of the total number of enrolled students.

**Table 6.** Distribution of students in high permanence situation according to academic performance with variables of social, family and work origin.

		Academic performance			Total
		Good	Bad	Just acceptable	
Pregnancy or parenthood	Yes	5 8,3%	7 11,7%	5 8,3%	17 28,3%
	No	15 25%	22 36,7%	6 10%	43 60%
Calamity and health	None	18 30%	18 30%	3 5%	39 65%
	Illness	2 3,3%	10 16,7%	5 8,3%	17 28,3%
	Death of a relative	0 0%	1 1,7%	3 5%	4 6,7%
Work activity of the	Si	6 10%	7 11,7%	4 6,7%	17 28,3
	No	15 25%	22 36,7%	10 10%	43 71,7%
	Academic support	16 26,7%	22 36,7%	10 16,7%	48 80,1
Age in ranges	No	4 6,7%	7 11,7%	1 1,7%	12 20%
	20-24	5 28%	11 61%	2 11%	18 100%
	25-29	14 38%	17 46%	6 16%	37 100%
	30-34	1 20%	1 20%	3 60%	5 100%

Source: Authors

In studies conducted by Pinto, Durán, Pérez, Reverón and Rodríguez (2007) and Escobar, Largo and Pérez (2006), it was found that 67.8% and 85.6% of the students remained enrolled in the

programs for up to 4 semesters more than what is established in the curriculum. In comparison with the results of the Speech Therapy Program, these studies show higher percentages of high

permanence; however, it is important to indicate that the program regularly enrolls between 300 and 320 students, which implies that a good number of students delay their graduation semester to semester.

In relation to age, 62% of the study population was older than 25 years, this finding shows that: first, the average age of enrollment to higher education in Colombia (National Administrative Department of Statistics [Dane], 2011) is 17 years old; in the second instance, the average (duration) of a professional university career is approximately 5 years; therefore, those who enter aged 17 should graduate at (age) 22. However, the students who fail subjects or drop out for one or several semesters, begin to see their graduation date delayed, which makes the lagged population (of students) to be older than the rest of their peers.

Although the absolute frequency showed that 65% of women were in high permanence, the proportion of this phenomenon by sex showed that it is higher in men, 22% (21/93); compared to 14% (39/263) of women. Some reasons that justify these findings are: “Women seem to adapt better to the university environment” (Ceballos and Villota, 2003: 32); and that even in the case of dropping out, men reach higher rates compared to women, given that according to: “National and international evidence, hypotheses coexist about behavioral and attitudinal aspects of gender that define different trajectories between men and women” (MEN, 2009: 93).

Contrary to what was expected, in the case of the Speech Therapy Program, the highest number of high-status students were those whose marital status corresponds to single status. This was contradictory to what was expressed by Zubieta, Cervantes and Rojas (2009), who found that in the unmarried population, there was less academic lag, compared to married people. The explanation to a finding like this one is perhaps determined by the differences that currently occur in the student populations; these are different in their position in the social context, and in the forms of their subjectivity and joint identities that allow that their characteristics behaviors wander in spaces that surround them and dissipate them from the habitual sense in the culture in which their lives are immersed (Belleï, Tenti Fantine and Levinson, 2012). That is to say, the things that were perhaps important and decisive in the lives of young people who faced pre-graduate training before, do not have the same representation today.

Something similar happened with respect to the student’s perception of their family environments; while the majority was expected to see them as not very positive, 86% (52) of the students perceived them as healthy ones. This finding does not reflect that the family cause is a determinant in the lag or high permanence for the Speech Therapy Program. In this case, it is likely that although there is family support, this does not constitute a determinant, considering changes in the ways of seeing life: “Students are others, in their position in the social space and in family contexts” (Belleï, Tenti Fantine and Levinson, 2012: 13). In addition, many families can incorporate in their discourse the importance of academic preparation, but indirectly transmit their children a certain cultural capital and some ethos, which may indicate the opposite (Bourdieu as cited in Belleï, Tenti Fantine and Levinson, 2012).

Despite the lower percentage (13%) of those who perceived their family environment as not very positive, it is worth mentioning that in this particular group, there may be a close relationship between the perception of the family environment, its dynamics, and how parents understand the importance of (university) studies with the academic results (Torres and Rodríguez, 2006); in this sense, the family environment can be a buffer of stress, or help cope with the transition and permanence in the university (Mori, 2012); not having it, in many cases, can be determinant for academic achievements.

Regarding the presence of adversity (family calamity) and health issues, it was found that 65% (39) of the respondents with high permanence said they had not suffered any of these during the course of their careers; only 28% reported having suffered some disease. Thus, for the Speech Therapy Program, these variables do not seem to contribute to the phenomenon of high permanence.

In relation to the variable pregnancy or paternity, it was found that of the population with academic lag, 72% (43) of students did not face this condition; however, for those who were in this situation, this was a reason to delay their studies for at least one semester. In this regard, Arevalo Rodriguez (2007), while investigating the reasons why students delay their graduation, found that one of these was pregnancy, occupying the fourth place of the ten most frequent causes for high permanence.

Regarding academic performance, 48% and 18% perceived it as bad and just acceptable, which is



natural considering that they are students who fail courses or delay their graduation. In this regard, Vera-Noriega, Ramos-Estrada, Sotelo-Castillo, Echeverría-Castro, Serrano-Encinas and Vales-García (2011) also found a high percentage of underperforming students as an element associated with lag; they add that it is the cumulative reprobation of (academic) subjects which is directly associated with academic performance, which puts in relevance the academic factors as a cause of the delay in the graduation from an academic program.

Regarding satisfaction with the program, 67% were satisfied with their choice, which explains why, despite the academic setbacks, the students did not abandon their studies. It should be noted that there is acceptance of the proposal of formation of the program by students; however, aspects related to academic performance raise questions about the methodological strategies that teachers use for training.

## Conclusions

The results of this study allow us to conclude that the average age of lagged students is in the range between 24 and 29 years, so it is visible how the delay in graduation prolongs their entry into (labor) market in almost four years, in some cases.

The factors that seem to be related in an important way with the prolongation of the studies in the Speech Therapy Program were the low academic performance and the lack of professional orientation, but a presence of more factors was expected; this implies that there is a close relationship between high permanence and other cultural, psychological and educational phenomena that can influence.

It was not evident that the socioeconomic and labor determinants in lagged students could have affected this situation; as well as conditions of maternity, paternity, health issues or the work environment did not influence. This allows us to conclude that although the results are manifested in a position contrary to what is expected, the theory of multiple interaction and the cultural and family challenges that involve new behaviors and behaviors of students come into play.

The high permanence was more influenced by low academic performance of students enrolled in IV, V or VI semester, in which the course of the disciplinary subjects begins. From VI semester onwards, there is evidence of stability in a high

percentage, with a constant tendency in semesters VII, VIII, IX and X semester, which coincides with the findings of other studies.

Students in high permanence condition, took approximately 8 years to complete a curriculum that lasts 5, an aspect that limits the work potential and compliance with indicators of academic quality.

It is essential for the Speech Therapy Program to conduct a qualitative inquiry into the students' perception of their academic difficulties and other factors involved, in order to prepare a follow-up plan that contributes to reducing this phenomenon.

## Acknowledgements

The authors express their gratitude to Universidad del Cauca and to the students of the Speech Therapy Program who participated in this study; and to those who were part of the development of this research.

## Declaration of conflict of interest

The authors declare that they are independent; they also declare that they have no conflicts of interest.

## References

- Arévalo Rodríguez, I. (2007). Caracterización de la problemática de alta permanencia en carreras de pregrado de la Universidad Pedagógica Nacional. Universidad Pedagógica Nacional, Bogotá, Colombia.
- Bellei, C; Tenti Fanfani, E y Levinson, B. A. (2012). La escolarización de los adolescentes: desafíos culturales, pedagógicos y de política educativa. Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura, Instituto Internacional de Planeamiento de la Educación, Sede Regional Buenos Aires.
- Camarena, R. M., Chávez, A. M y Gómez, J. (1984). Eficiencia terminal en la UNAM: 1970-1981. Revista Perfiles Educativos, 7, 35-48.
- Ceballos, M. y Villota, D. Factores asociados a la deserción estudiantil en la cohorte 2003 periodo B del Programa de Licenciatura en educación Básica con énfasis en humanidades. (Tesis de

- pregrado). Universidad de Nariño, San Juan de Pasto, Colombia.
- Departamento Administrativo Nacional de Estadística. (2011). Estadísticas vitales 2011. Recuperado de: <http://www.bvs.org.ar/pdf/anuario11.pdf>.
- Escobar, J., Largo, E y Pérez, C. A. (2006). Factores asociados a la deserción y permanencia estudiantil en la Universidad del Valle (1994-2006). Cali, Universidad del Valle, Vicerrectoría Académica, Facultad de Ciencias Sociales y Económicas, Centro de Investigación y documentación socioeconómica-CIDSE.
- Ministerio de Educación Nacional. (2009). Deserción estudiantil en la Educación Superior Colombiana. Recuperado de: [http://www.mineduacion.gov.co/sistemasdeinformacion/1735/articulos-254702\\_libro\\_desercion.pdf](http://www.mineduacion.gov.co/sistemasdeinformacion/1735/articulos-254702_libro_desercion.pdf).
- Ministerio de Educación Nacional. (2010). Ingreso, permanencia y graduación. Recuperado de: [http://www.mineduacion.gov.co/1621/articulos-92779\\_archivo\\_pdf\\_Boletin14.pdf](http://www.mineduacion.gov.co/1621/articulos-92779_archivo_pdf_Boletin14.pdf).
- Mori, M. (2012). Deserción universitaria en estudiantes de una universidad privada de Iquitos. Revista Digital de Investigación en Docencia Universitaria (RIDU).
- Pinto, M., Durán, D., Pérez, R., Reverón, C y Rodríguez, A. (2007). Cuestión de supervivencia. Graduación, deserción y rezago en la Universidad Nacional de Colombia. Universidad Nacional de Colombia. Dirección Nacional de Bienestar Universitario, Bogotá.
- Romo, A y Fresán, M. (2012). Los factores curriculares y académicos relacionados con el abandono y el rezago. Deserción, rezago y eficiencia terminal en las IES, propuesta metodológica para su estudio. México: ANUIES.
- Torres, L. y Rodríguez, N. (2006). Rendimiento académico y contexto familiar en estudiantes universitarios. Enseñanza e investigación en psicología, 11(2), 255-270.
- Universidad del Cauca. (2011). Boletín estadístico. Recuperado de: <http://www.unicauca.edu.co/versionP/boletin-estadistico>.
- Vera-Noriega, J. Á., Ramos-Estrada, D. Y., Sotelo-Castillo, M. A., Echeverría-Castro, S., Serrano-Encinas, D. M y Vales-García, J. J. (2012). Factores asociados al rezago en estudiantes de una institución de educación superior en México. Revista iberoamericana de educación superior, 3(7), 41-56.
- Zubieta, G; Cervantes, P y Rojas, S. (2009). La deserción y el rezago en la Educación Superior a Distancia: signos promisorios en una Universidad Pública Mexicana. Observatorio de la Educación Virtual en América Latina y el Caribe.

