







University Academic Initiation Program of the Pre University Center and the academic performance of farming communities admitted students to the UNASAM University in mathematics I - Semester 2020-II, Huaraz, 2022

[Programa de Iniciación Académica Universitaria del Centro Preuniversitario y el desempeño académico de las comunidades campesinas estudiantes admitidos a la Universidad UNASAM en matemáticas I - Semestre 2020-II, Huaraz, 2022]

Miguel Maguiña Molina^a , Jonhson Valderrama Arteaga^{a,*} , Mariano Bedón Salinas^a , Julie Espinoza Castromonte^a , Patricia Huamán Romero^a , Heber Chanducas Tantalean^a 

^a Universidad Nacional Santiago Antúnez de Mayolo, Huaraz, Perú

* jvalderrama@unasam.edu.pe

Received: 20 November 2022; Accepted: 05 December 2022; Published: 24 December 2022

Resumen

En la siguiente investigación, se tuvo como objetivo de investigación, determinar la relación que existe entre el programa de iniciación universitaria académica del centro pre universitario (CPU) y el rendimiento académico en ingresantes de las comunidades campesinas a la UNASAM en matemática I, semestre 2020-I, Huaraz 2022. La investigación es tipo descriptivo, método cuantitativo y diseño correlacional; se aplicaron dos instrumentos: encuesta validados por dos expertos, aplicados a una muestra de 30 estudiantes. Las variables analizadas Programa de iniciación universitaria académica y rendimiento académico, en cuya investigación se formuló una hipótesis afirmativa y una hipótesis nula. Después de analizar los resultados, se afirma que sí existe una relación significativa entre el programa de iniciación universitaria académica y el rendimiento académico, quedando corroborado la hipótesis afirmativa. La verificación de la hipótesis fue hecha aplicando el Chi cuadrado. Existe una relación significativa entre el programa de iniciación universitaria académica del CPU y el rendimiento académico en ingresantes de las comunidades campesinas a la UNASAM en matemática I, semestre 2020-I.

Palabras clave: Programa, iniciación académica, rendimiento académico, proceso, organización, evaluación.

Abstract

In the following investigation, the research objective was to determine the relationship that exists between the academic university initiation program of the Pre University Center (CPU in Peru) and the academic performance of entrants from rural communities to the UNASAM in mathematics I, semester 2020-I, Huaraz 2022. The research is descriptive, quantitative method and correlational design; Two instruments were applied: survey validated by two experts, applied to a sample of 30 students. The variables analyzed Academic university initiation program and academic performance, in whose investigation an affirmative hypothesis and a null hypothesis

were formulated. After analyzing the results, it is affirmed that there is a significant relationship between the academic university initiation program and academic performance, thus confirming the affirmative hypothesis. The verification of the hypothesis was made by applying the Chi square. There is a significant relationship between the academic university initiation program of the CPU and the academic performance of entrants from rural communities to UNASAM in mathematics I, semester 2020-I.

Keywords: Program, academic initiation, academic performance, process, organization, evaluation.

1. Introduction

Access to higher education expanded rapidly in Latin America during the 2000s, accumulating an average growth of approximately 40%, which allowed the region to be in the average international trend (Cajavilca, 2010). However, academic performance has serious deficiencies, as indicated by the (OCDE, 2016) In mathematics, the Autonomous City of Buenos Aires was ranked 42nd, but at the country level the results were the following: Chile (48), Uruguay (51), Mexico (56), Costa Rica (59), Colombia (61), Peru (62), Brazil (65), Dominican Republic (70).

In this sense, academic performance is a problem that deeply worries students, parents, teachers and authorities; and not only in our country, but also in many other Latin American countries and other continents. Since the educational system plays a very important role in the distribution of future opportunities, not only because of their certifications but also because of the level of learning actually achieved by the student (Lara, Pineda and Rocha, 2014).

The educational reality in Latin America does not seem to be far from this scenario when the results reported by the (United Nations Organization, 2014), on the results of the Third Regional Comparative and Explanatory Study (TERCE) in 15 Latin American countries are not very encouraging. because more than 66% in reading, 86% in mathematics and 79% in sciences of students in the third and sixth grades of primary school, are concentrated in educational level I and II (low levels). Likewise, in Peru the educational situation is not alien to the previous one, since the results shown in the national evaluation of the year 2004 carried out by the Ministry of Education -hereinafter will be called MINEDU- were not at all encouraging when, in the second grade only achieved a sufficient level in reading comprehension 15.1% and 9.6% in mathematics, on the other hand, fifth grade students who achieved this level was 9.8% in reading comprehension and 2.9 % in mathematics (National Assessment Council, 2013).

In our local reality, pre-university preparation does not fill the gap left by secondary education, even more so with new entrants to the university, there is a well-marked gap with respect to university studies, hence in the first cycles of studies, many are disapproved, in the basic courses, such as mathematics, noting then that their academic performance is too deficient, because they did not have university preparation courses in the first basic courses, faced with this problem, the CPU- UNASAM, implements an Academic University Initiation Program, aimed at new entrants to UNASAM, either through the CPU or through the ordinary exam, in which the basic courses are taught, such as: Mathematics I, Mathematical Logical Thinking, Chemistry, Workshop Communication and English.

Through the Social Responsibility office of UNASAM, an agreement was signed with the peasant communities regarding the preparation of the children of the peasants of those communities, obtaining half scholarships, whose pre-university preparation only consists of preparing them only in mathematical reasoning. and verbal reasoning, having a duration of 8 weeks, so we can see that their training is very deficient and therefore their permanence within the university will be

chaos, which is why we are forced to present our research project "Program of academic university initiation of the pre-university center (cpu) and academic performance in mathematical i-semester 2020-ii in mathematics in registers of peasant communities, Huaraz 2022. This problem will be accentuated in our communities, which bring limitations marked with respect to their academic performance, which is stated by Closas (2009), who states that there is Difference between the academic training that students have at the end of secondary education and that which is required at the university. This frequently prevents them from adequately carrying out the tasks that take place in this context.

At the Santiago Antúnez de Mayolo National University, this difference in training forces many higher-level institutions to provide pre-university preparation to students before beginning their studies at the university. In pre-university studies, it can be verified that secondary education with university education is not properly articulated or there is a difference between the purposes of one level and another, since there are students with serious difficulties learning mathematics I and other areas. of knowledge.

As Álvarez (2015) establishes, pre-university training and prior mathematics teaching are not very suitable for mathematics that students must later study at the university, since it is very theoretical, limited and without a logical approach that links it with other subjects and with daily life, which makes it abstract or not very understandable, a fundamental, although not exclusive, cause of low pre and university student performance in this area.

There may be innumerable causes for which students have problems in learning mathematics in our case in Mathematics I, among which may be: The motivation of the class by the teacher; he used methodological strategies, the reinforcement of learning, the previous knowledge of the students, evaluation of learning among others. The affected population is not only engineering students, but mostly students who entered via the Peasant Communities agreement who study engineering and take the Mathematics I course. This subject is essential for professional engineering careers. If the student does not learn this subject, he will have many problems in the mathematics courses that continue. Therefore, there will be students who resent mathematics, who are not creative, who have low academic performance. Consequently, in the perspective of contributing to the improvement of the academic performance of students from rural communities, we are forced to ask ourselves the following question: What relationship exists between the academic university initiation program of the CPU and the academic performance of newcomers? of the peasant communities to UNASAM in mathematics I, semester 2020-I?, for this the following research objective was established to determine the relationship that exists between the academic university initiation program of the pre-university center (CPU) and academic performance in entrants from rural communities to UNASAM in mathematics I, semester 2020-I, Huaraz 2022. To give a tentative response to our research problem, the following research hypothesis was considered: there is a significant relationship between the academic university initiation program of the pre-university center (CPU) and academic performance in entrants of peasant communities to UNASAM in mathematics I- semester 2020-I, Huaraz 2022.

It is worth mentioning that in our research we consider some findings, as is the case of the author, Pérez (2016). Process of adaptation of students to the university in the University Center of Los Altos of the University of Guadalajara. Doctoral thesis, whose research work seeks to understand the process of adaptation of students to university life at the Los Altos University Center (CUALTOS) of the University of Guadalajara. I conclude that the adaptation to the university is a complex process that begins when the interest in studying a career arises. It is a research work that is related to one of the study variables, such as the academic university initiation. In the same way we consider the following investigation of the authors, (Medina and García, 2011). "Factors that influenced the process of integration into the Catholic university and the academic performance of the students who entered in 2004-I from the different departments of Peru".

Master's Thesis. The methodology used is quasi-experimental - longitudinal. He came to the following conclusion: that in most of the students who have presented a good academic performance, the decision and clear conviction of their objectives stands out, either because they come from homes in which their parents or close relatives have been their professional role models. or because of the desire to improve the economic situation and quality of life of their families through education. The idea of promotion or social mobility is present in them. This research work is related to one of the study variables.

We must understand that the academic university initiation is a program that allows us to address the skills that guarantee a successful initiation to university studies; whose purpose is to facilitate, enrich and consolidate comprehensive training. Likewise, we must understand that academic or school performance is based on the assumption that the student is responsible for their performance. While the use refers, rather, to the result of the teaching-learning process, whose levels of efficiency are responsible for both the one who teaches and the one who learns (Navarro, 2003).

2. Materials and Methods

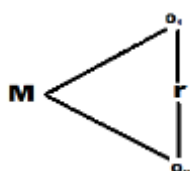
Type of research

This research is non-experimental, descriptive method. It is descriptive because it allows specifying the important properties of people, groups, communities or any other phenomenon that has been subjected to correlational analysis or its purpose and utility is to know how a variable can behave knowing the behavior of another related variable, that is try to predict the approximate value that a group of individuals will have in a variable, based on the value they have in the related variable or variables.

Research design

The research design can be defined as a schematic structure or organization that the researcher adopts to relate and control the study variables. "It serves as an instrument of direction and restriction for the researcher, in this sense, it becomes a set of guidelines under which an experiment or study will be carried out" (Hernández, Fernández and Baptista, 2014).

In order to achieve the stated objectives and to analyze the certainty of the formulated hypothesis, the research design is of a non-experimental type, specifically cross-descriptive correlational., whose scheme is:



Where:

M: Sample (Enrollees from peasant communities)

O₁: Academic university initiation program.

r: Degree of relationship that exists between the study variables.

O₂: academic performance

Sample population

In the present research work, the study population is considered to be the students of the rural communities who entered the different professional engineering careers of the UNASAM of the first cycle. The first year students are an average of 30, which constitutes 100%; so the sample was the entire population.

Data Collection Techniques

In our case, there was no type of sampling, a statistical census was carried out, because our population was small, it was considered that the sample should be the same as the population, using an instrument called a survey questionnaire. A census is understood as that numbering that is carried out on each and every one of the component characters of a population. For (Levín and Rubín, 2010), "Sometimes it is possible and practical to examine each person or element of the population that we wish to describe. We call this a complete enumeration or census." The determination of the sample size was carried out according to form selected with the non-probabilistic method of intentional deterministic type (Hernández, Fernández and Baptista, 2014).

Techniques for information processing

- The analysis of the data and its interpretation obtained from the information, the data was organized through a tabulation matrix in Excel and SPSS 20.
- Interpretation of the relationship between both variables.
- Determine the degree of generalization of the research results.
- Comparative charts: Systematize the information and contrast the elements of the correlation between the university initiation program and academic performance.
- Describe the characteristics of the object of study.

3. Results

In accordance with the objectives set out in this research, the results are shown through the table, which are a reflection of the evaluation made by the teacher through a single survey.

Table 1: Academic university initiation program and academic performance in entrants from rural communities to UNASAM in mathematics I, semester 2020-I.

			Academic performance			Total
			Deficient	Regular	Good	
Academic university initiation program	Deficient	Frequency	0	4	2	6
		Percentage	0,0%	13,3%	6,7%	20,0%
	Regular	Frequency	2	2	8	12
		Percentage	6,7%	6,7%	26,7%	40,0%
	Good	Frequency	2	9	1	12
		Percentage	6,7%	30,0%	3,3%	40,0%
Total		Frequency	4	15	11	30
		Percentage	13,3%	50,0%	36,7%	100,0%

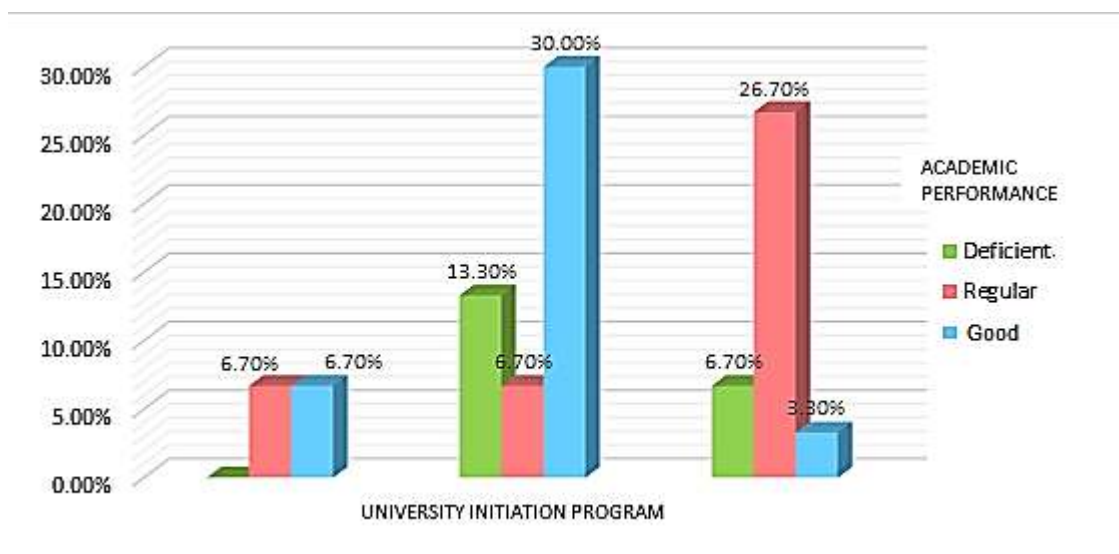


Figure 1: Academic university initiation program and academic performance in entrants from peasant communities to UNASAM in mathematics I, semester 2020-I.

From the previous table and figure, it can be seen that the entrants from the rural communities qualify the academic university initiation program with a good level, with the same percentage of regular and with 20% deficient. Regarding the academic performance of the entrants of the peasant communities in the mathematics course I, semester 2020-I, it was found that 50% of them present a regular level, 36.7% good and 13.3% deficient. Likewise, we can say that 30% of the entrants from the rural communities believe that the academic university initiation program has a good level and their academic performance in the mathematics course I, semester 2020-I is regular, 26.7% states that the academic university initiation program and its academic performance is regular and with a lower percentage (3.3%) indicate that the academic university initiation program and its academic performance is good. In this way we can infer that the majority of the entrants of the rural communities believe that the academic university initiation program is fair to good, in this way it can be concluded that the program is effective. Likewise, we can indicate that half of the entrants from the peasant communities have a regular academic performance in the mathematics course I, semester 2020-I.

Table 2: Academic university initiation in the process dimension and academic performance in entrants from rural communities in Mathematics I

			Academic performance			Total
			Deficient	Regular	Good	
Academic university initiation in the process dimension	Deficient	Frequency	0	3	2	5
		Percentage	0,0%	10,0%	6,7%	16,7%
	Regular	Frequency	2	3	8	13
		Percentage	6,7%	10,0%	26,7%	43,3%
	Good	Frequency	2	9	1	12
		Percentage	6,7%	30,0%	3,3%	40,0%
Total	Frequency	4	15	11	30	
	Percentage	13,3%	50,0%	36,7%	100,0%	

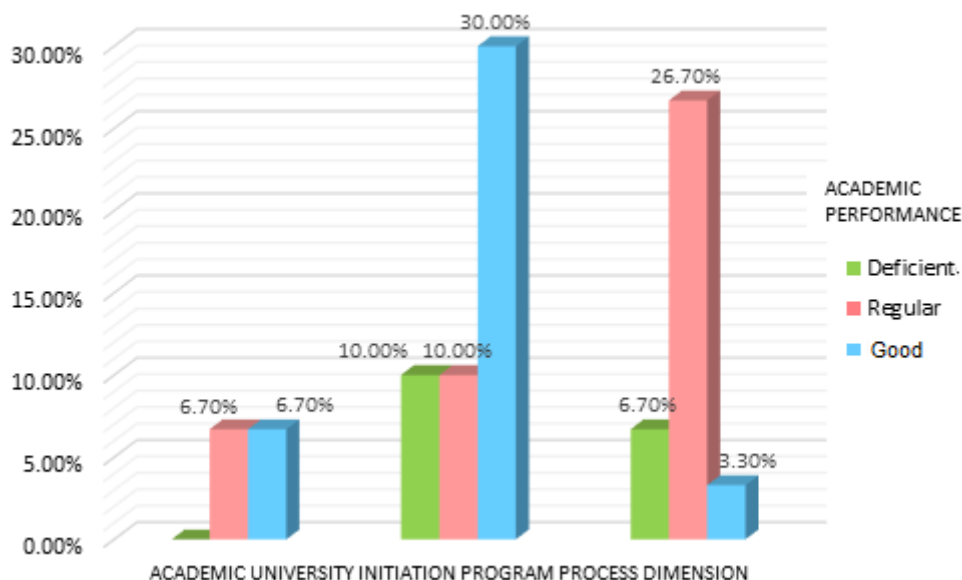


Figure 2: Academic university initiation in the process dimension and academic performance in entrants from rural communities to UNASAM in mathematics I, semester 2020-I.

From table 2 and figure 2, it can be seen that in the process dimension of the academic university initiation program aimed at entrants from rural communities, 43.3% believe that it presents a regular level, 40% a good level and 16.7% a poor level. Likewise, we have that 30% of the entrants of the rural communities think that the program Iniciación universidad academia proceso dimension process has a good level and in the academic performance in the Mathematics I course they present a regular level, 26.7% think that the academic university initiation program process dimension has a regular level and in the academic performance in the Mathematics I course they present a good level, while 3.3% state that the university academic initiation process dimension program and the academic performance of the entrants of peasant communities is good. In this way we can infer that 43.3% think that it presents a regular level, 40% a good level and 16.7% a deficient level. On the other hand, 30% of the entrants from the rural communities believe that the program Iniciación universidad academia proceso dimension has a good level and in the academic performance in the Mathematics I course they present a regular level.

4. Conclusions

- In the results already seen previously, we can observe in the table 1 and figure 1, that there is a significant relationship between the academic university initiation program of the pre-university center (CPU) and the academic performance in entrants of the rural communities, with a probability of 0.026. Therefore, the general research hypothesis is accepted.
- In the same way, we can observe in the table 2 and figure 2, there is a relationship between the Academic University Initiation Program of the CPU in the process dimension and the academic performance in entrants from the peasant communities in Mathematics I, with a probability of 0.012. Therefore, the specific research hypothesis is accepted.

5. Acknowledgments

- To the director of the UNASAM pre-university center, to continue implementing the Academic University Initiation Program, aimed at newcomers from peasant communities.
- To the Academic Vice Chancellor of UNASAM, so that it be formalized as an academic policy within the university, for all those who enter the university, either via CPU and ordinary exam.

References

- Álvarez. 2015. Aprendizaje colaborativo mediado por TIC en la enseñanza universitaria. México: Tesis doctoral.
- Cajavilca. 2010. Repositorio de la UNE.
- Closas, A. 2009. Modelización estadística del rendimiento matemático con variables psicoeducativas en estudiantes universitarios. Pamplona: Universidad Pública de Navarra, departamento de Estadística e Investigación Operativa: Tesis doctoral.
- Consejo Nacional de Evaluación. 2013. Evaluaciones estandarizadas del rendimiento escolar. Lima:
<http://www.cne.gob.pe/images/stories/cnepublicaciones/BOLETIN%20CNE%20setiembre%202013.pdf>.
- Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, M. 2014. Metodología de la investigación. México: Mc Graw Hill. Quinta edición.
- Lara, A., Pineda, J., & Rocha, E. 2014. Factores escolares y extraescolares que inciden en la trayectoria escolar de enfermería. *Enf neuro* 13(3), 132-138.
- Levín, R. L., & Rubín, D. S. 2010. Estadística para administración y economía. México: Pearson Educación, 7ma edición.
- Medina flores, M. S., & García Moreno, M. A. 2011. Factores que influyeron en el proceso de integración a la universidad católica y en el rendimiento académico de los alumnos que ingresaron en el 2004-I procedentes de los diferentes departamentos del Perú. Perú: Tesis de maestría.
- Navarro, R. E. 2003. El Rendimiento académico: Concepto, Investigación y desarrollo. *Revista Electrónica Iberoamericana sobre Calidad, Eficacia y Cambio en Educación*, 6-8.
- OCDE. 2016. Resultados de PISA 2012 en Foco. París: OCDE Secretaría General. https://www.oecd.org/pisa/keyfindings/PISA2012_Overview_ESP-FINAL.pdf.
- Pérez Pulido, I. 2016. El proceso de adaptación de los estudiantes a la universidad en el centro universitario de los Altos de la *Universidad de Guadalajara*. México: tesis doctoral.
- United Nations Organization, p. 2014. Primera entrega de resultados TERCE. Tercer estudio regional comparativo y explicativo. Santiago de Chile: UNESCO.