

PANDEMIC IMPACT ON ARGENTINIAN HIGHER EDUCATION. THE CASE OF THE NATIONAL UNIVERSITY OF LA PLATA

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ABSTRACT

This article analyzes the impact of the pandemic in Argentina, considering that the National Government and provincial governments issued isolation resolutions throughout the 2020 academic year and mandatory social distancing measures in 2021, which prevented in-person activities at National Universities, such as classes and exams. The analysis focuses on the use of virtual means (such as Moodle, Zoom, Webex, etc.) by students and the graduation rate. Official statistics from the Secretary of University Policies of the Ministry of National Education are used, comparing them with those of the National University of La Plata. The study includes a gender analysis to determine if the pandemic's impact in our country maintained or modified the proportions of incoming students, enrolled students, and graduates. The results show that while the pandemic changed habits, it did not have such a negative impact as expected on the overall university population.

KEYWORDS

Higher Education, Pandemic, Public Policies, Impact, Students

1. INTRODUCTION

The pandemic caused by the coronavirus disease (COVID-19), resulting from the SARS-CoV-2 virus, provoked different governmental reactions in each country around the world to mitigate the negative social and economic impact. According to data from the report by CEPAL, OREALC, and UNESCO on education during the COVID-19 pandemic (UNESCOa, 2020), it is estimated that by May 2020, more than 190 countries had closed schools, affecting over 1.2 billion students. This physical closure of institutions, particularly in higher education, led to the adoption of emergency remote education models.

In higher education, many institutions had different virtual tools that aided in the transition, unlike other educational systems. In Latin America and the Caribbean, the impact of the pandemic led university institutions in the region to shift to virtual teaching. The leading institutions called for a virtual modality to address the immediate situation and consider hybrid education models for a post-COVID-19 scenario, especially in private universities (Salto, 2021, p. 63).

According to Francesc Pedró, director of IESALC, from the perspective of UNESCO's Chairs' students worldwide (UNESCOb, 2020), the following points stand out as the most crucial issues in the region concerning the COVID-19 problem:

- Internet connectivity difficulties: only 51% of households in Latin America have connectivity with quality standards.
- The negative perception of social isolation is not as significant for students in the region.
- Maintaining a regular study schedule, self-regulation skills, and discipline for distance learning at the undergraduate level. This highlights the need to rethink how to learn.
- Economic concerns.

Regarding the first point, internet access in the region varies widely. It ranges from 3 out of 10 people in Nicaragua to over 70% of the population in Argentina and Chile. In Argentina, according to INDEC, 42.6% of the population uses a computer, and 77.7% of the population uses the internet. 92.1% has internet access from home (mobile or fixed network), with 62.6% having a computer in urban households (INDEC, 2023). However, quality is also a factor to consider. In addition to the connectivity issues caused by the pandemic, it is important to analyze pedagogical continuity, emotional support, and the balance between family life and personal projects at home, particularly for women. The support and repatriation of international students are also important. Concerning the economic situation, the pandemic in Argentina coincides with an economic crisis preceding it, reflected in high levels of indebtedness and inflation (Miranda, 2020)

On March 12, 2020, Argentina decreed the ASPO (Preventive and Mandatory Social Isolation), which remained in effect until November 8, 2020. From this date onwards, the DISPO (Social, Preventive, and Mandatory Distancing) came into effect, which lasted throughout 2022, varying according to the different provinces of our country. This decree underwent modifications, transitioning from strict confinement to health recommendations, capacity limits, etc. This date is a few days before the start of the academic year in universities, which begins on April 1 and continues until March 30 of the following year. Argentina has 134 universities and university institutes, 70 of which are public (CIN, 2023) and 64 are private (CRUP, 2023). These institutions have been impacted by the pandemic, including their teachers, students, and non-teaching staff. Over 1.8 million students enrolled in degree programs in 70 public universities shifted from face-to-face to distance learning, without a break. In-person classes moved to virtual formats, many of them through video conferences. All universities chose to immediately transition to distance learning, with some initial reservations, and it is still a modality offered by very few public institutions, even today (Salto, 2021, p. 63).

Despite the health and economic crisis, public universities developed institutional policies to mitigate the impact of the pandemic on students from low-income backgrounds, such as connectivity grants, access to free platforms, and economic assistance scholarships, among other initiatives. As the situation progressed in all educational levels, the government reached agreements with mobile and internet companies to provide free access to educational platforms (García de Fanelli et al., 2020).

The Argentine government also implemented a set of public policies for research, such as the Coronavirus Unit of the Ministry of Science, Technology, and Innovation of the Nation and the "PISAC COVID-19: Argentine Society in the Post-pandemic" program, aimed at funding research projects on pandemic and post-pandemic societal studies.

The PlanVES (Higher Education Virtualization Plan) of 2020 was an initiative of the Secretariat of University Policies of the Ministry of Education of the Nation, which sought to improve technological tools for inclusion, teaching and learning development, evaluation in virtual environments, monitoring and tutoring, connectivity, and infrastructure adjustments. The PlanVES II, the Higher Education Virtualization Plan II, was developed in 2021 and aimed to provide university institutions with resources to strengthen face-to-face and remote training through the development and implementation of hybrid classrooms. Hybrid classrooms seek to combine virtuality with face-to-face interactions, offering a pedagogical experience that combines both modalities. They represent a response from the national university system to the global pandemic situation experienced recently. The specific objectives include developing and implementing hybrid classrooms that guarantee access to innovative and quality education, strengthening virtual training through teacher training, developing innovative proposals through project development, problem-solving, and addressing local needs, strengthening institutions with the necessary software and hardware, and improving the connectivity of students and teachers. For this purpose, approximately \$1,490,000,000 (around 6,000,000 USD) was allocated to national and provincial universities and the University Information System (PlanVES, 2021) (Rojas, 2021).

In 2022, the PlanVES III was launched to consolidate hybrid classrooms in the post-pandemic context through specific funds allocated to higher education for updating the equipment of hybrid classrooms, networks, storage, and evaluation for virtualization strategies (Institutional Strengthening, 2022).

As mentioned earlier, the Argentine university system consists of a total of 134 university institutions, including state universities (63), private universities (50), and university institutes (21). University statistics are managed by the University Information Department, under the Secretariat of University Policies of the Ministry of Education of the Nation. Information for each university institution is collected twice a year through the SIU-Araucano system (DIU, 2023).

The UNLP (National University of La Plata, UNLP, 2023) is a public university, ranking third in the country in terms of student enrollment, with over 117,000 undergraduate students, 17,600 postgraduate students, and more than 5,000 students from pre-university schools and colleges (SIU Araucano, 2022). It offers a wide range of academic programs, from Aerospace Engineering to Popular Music Education and English and French Translation, including Medical Sciences and Computer Science. These programs are offered in 17 faculties and 5 pre-university colleges. During the pandemic, the UNLP, like all national universities, suspended face-to-face classes and transitioned from in-person to distance learning. With varying levels of digital literacy among teachers and students and available technological resources, the UNLP implemented different programs to support and retain students, such as the "Your PC for Studying" program (UNESCO, 2023) (UNLP, 2022). The UNLP's Institutional Distance Education System (SIED UNLP) reported in its extraordinary technical report for 2020 that there were 4,832 courses created in virtual environments, involving over 106,000 enrolled students and 16,935 teachers. In 2019, the report indicated 2,643 active classrooms and 81,561 active participants (SIED, 2019) (SIED, 2020).

Next, an analysis of new enrollments, students, and graduates from 2016 to 2021 at the UNLP will be presented, comparing them with the national university system in Argentina and available regional statistics on higher education.

2. IMPACT OF THE PANDEMIC ON UNLP

In Argentina, university statistics are managed by the University Information Department, under the Secretariat of University Policies of the Ministry of Education of the Nation. The information is collected annually using the information system called SIU-Araucano. This system allows reporting on admission, enrollment, and graduation statistics for undergraduate and postgraduate programs in both public and private Argentine universities (SPU, 2016, 2017, 2018, 2019, 2020, 2021).

This study uses national statistics on undergraduate and pre-degree university students from public institutions between the years 2016 and 2021 to make a comparison with the numbers from the National University of La Plata (UNLP).

Figure 1 (or Table 1) shows the evolution of total students, new enrollments, and graduates in Argentina and at UNLP between the years 2016 and 2021. The choice of these years is to analyze the impact of the pandemic on university statistics. The data includes the number of undergraduate and pre-degree students from public institutions.

Table 1. Evolution of Students, New Enrollments, and Graduates of Undergraduate and Pre-degree Programs in Public Institutions in Argentina and UNLP. Years 2016, 2017, 2018, 2019, 2020, and 2021

Year	Total Students		New Enrollments		Graduates	
	Argentine	UNLP	Argentine	UNLP	Argentine	UNLP
2016	1,519,797	105,551	372,467	25,959	82,731	6,897
2017	1,584,392	104,615	396,303	23,270	86,174	7,039
2018	1,640,405	108,047	424,959	25,908	86,958	6,546
2019	1,751,607	109,874	471,827	25,941	88,080	6,383
2020	1,872,591	116,824	513,151	31,725	73,832	5,690
2021	2,065,115	117,277	556,628	31,385	93,917	7,825

In terms of the number of students and new enrollments, an increase is observed both at the national level and at UNLP. However, there is a decrease in the number of graduates in 2020. This trend could be attributed to the decision made by the majority of Argentine public universities to sustain virtual classes as a means to ensure academic activity during the quarantine period, as reflected in a joint declaration by the National Interuniversity Council (Fanelli et al., 2022). The UNESCO report on higher education in Latin America and the Caribbean (UNESCO, 2023) also indicates that student enrollment remained stable at 28.9 million between 2019 and 2020.

Regarding the evolution of approved courses at UNLP, it can be observed that during the pandemic, the proportion of students who passed 1 course experienced a decrease in 2020 and a rebound in 2021. Those who passed 6 courses or more increased in 2020 and slightly decreased in 2021, while the number of students who passed 2, 3, 4, and 5 courses remained stable.

Table 2. Evolution of the percentage of students according to the number of approved courses at UNLP between the years 2016 and 2021

Year	0 subject	1 subject	2 subjects	3 subjects	4 subjects	5 subjects	6 or more subjects
2016	21,024	14,462	10,367	8,437	6,857	5,587	12,858
2017	31,784	17,858	13,068	10,763	8,814	7,251	15,077
2018	32,808	19,142	13,658	11,214	8,900	6,753	15,572
2019	30,722	19,789	13,969	11,764	9,423	7,235	16,972
2020	29,939	20,906	15,902	12,528	9,810	7,961	19,778
2021	27,872	24,075	16,161	12,868	10,044	7,812	18,445

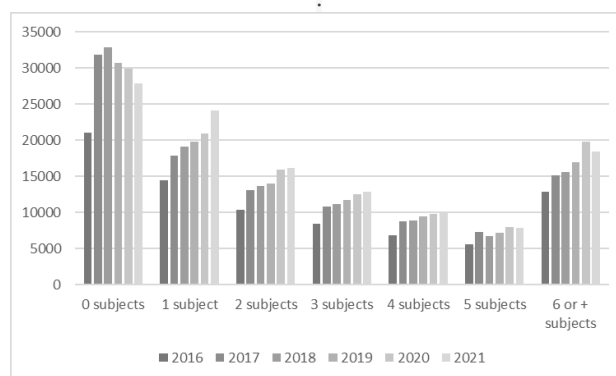


Figure 1. Evolution of the percentage of students according to the number of approved courses at UNLP between the years 2016 and 2021

2.1 New Enrollments by Field of Study

The SPU classifies Argentine university programs into 5 fields: Social Sciences, Applied Sciences, Humanities, Health Sciences, and Basic Sciences. Social Sciences include areas such as social communication, political science, law, geography, economics and management, sociology, anthropology, and social work. Applied Sciences encompass architecture and design, astronomy, biochemistry and pharmacy, agriculture and soil, meteorology and industries, computer science, and engineering. Humanities cover audiovisual arts, education, philosophy, history, languages, and psychology. Health Sciences include medicine and dentistry, paramedics and assistants, and veterinary studies. Basic Sciences involve biology, physics, mathematics, and chemistry.

Figures 2 and 3 show the evolution of enrollments in Argentine public universities according to the chosen field of study by students between the years 2016 and 2021. Figure 3 displays enrollments at UNLP by field of study in the years 2016, 2017, 2018, 2019, 2020, and 2021.

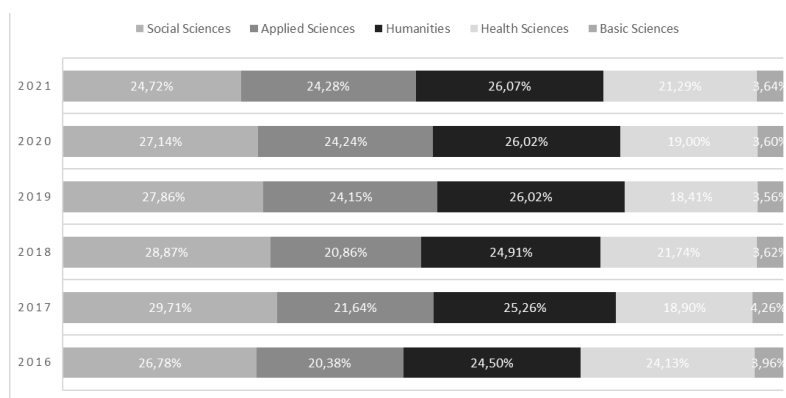


Figure 2. New enrollment to Argentinian public universities according to field of study

It can be observed that the majority of students choose Social Sciences, but there is a decrease from 37.50% in 2019 to 33.30% in 2021. On the other hand, two fields of study of great importance for the country, namely Health Sciences (essential during the pandemic) and Applied Sciences (strategic for development), have increased from 19.60% in 2019 to 20% in 2021, and from 20.40% in 2019 to 22.90% in 2021, respectively.

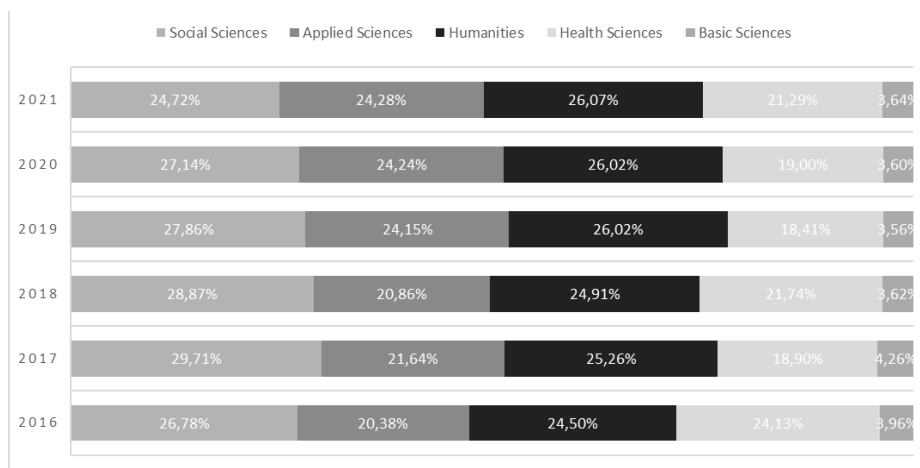


Figure 3. New enrollments to UNLP according to field of study

At UNLP, similar to the national level, there is a decrease in enrollments in Social Sciences programs, declining from 27.86% in 2019 to 24.72% in 2021. Notably, at UNLP, a higher proportion of students choose Applied Sciences and Health Sciences programs, representing near 50% of the institution's new enrollees.

In the UNESCO report analyzing enrollment in higher education by field of study and the participation of women in enrollment in each field of study in Latin American countries between 2015 and 2020, there is also an increase in women's participation in fields more associated with caregiving roles (health and well-being and education) and social sciences.

2.2 Women Participation

Another interesting aspect to analyze is the impact of the pandemic on women's participation in university enrollment. There is an increase in women's participation between the years 2016 and 2021, which were marked by the pandemic, as shown in Figure 4.

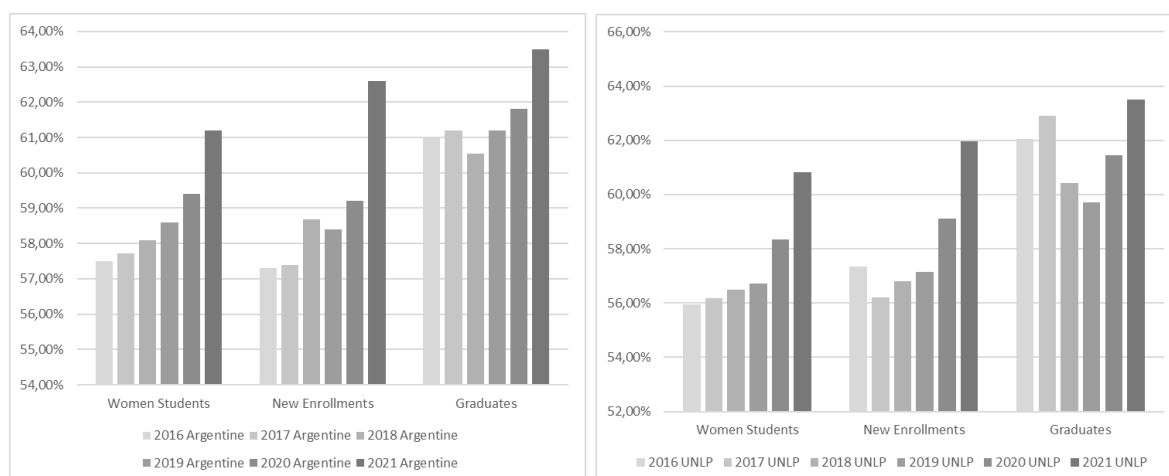


Figure 4. Women participation in Argentinian public universities and UNLP

The increased incorporation of women in the Argentine university system is evidenced by the rise in new enrollments from 58.40% in 2019 to 62.60% in 2021 nationwide. A similar trend is observed at UNLP, with figures of 57.15% in 2019 and 61.97% in 2021.

According to the UNESCO Institute of Statistics (UNESCO, 2023 page 11) between 2000 and 2020, the enrollment rate has increased by 36.6% for women and 25.6% for men. Over the past twenty years, there has been a growing participation of the female population.

2.2 Study Modality

During the pandemic, most Argentine state universities, including UNLP, incorporated virtual environments for a significant portion of their scheduled courses. While all universities adopted the same strategy, some already had previous experience with distance learning courses and the use of virtual campuses for teaching activities (Fanelli et al., 2020). Table 3 shows the evolution of the number of students in public universities according to study modality. Distance learning offerings recorded a 56.95% increase from 2020 to 2021, while in-person offerings saw a 27.53% increase during the same period. The number of distance learning students also increased by 17.82% compared to the previous year, while in-person modality experienced a 9.30% increase.

Table 3. Offerings and number of undergraduate and pre-graduate students in Argentine public universities according to study modality

Year	Offering		Students	
	Distance Learning	In-person Learning	Distance Learning	In-person Learning
2016	225	4,954	49,623	1,470,174
2017	221	5,065	60,580	1,523,812
2018	200	4,256	58,029	1,582,376
2019	381	6,272	172,078	2,015,214
2020	381	6,191	185,871	2,132,384
2021	598	7,896	219,005	2,330,784

The UNLP does not offer undergraduate and pregraduate programs in distance learning mode. It is interesting as a starting point to generate new study plans and curricula that adopt this modality. There is a growing availability of postgraduate programs in distance learning mode, accelerated by the pandemic, with an increase from only 5 offerings in 2019 to 30 offerings in 2023.

3. CONCLUSION

The study presents the evolution of the university population during the years of the pandemic's greatest impact in Argentina and compares it with data from the previous year. This shows that there have been no major changes in the trends regarding the evolution of university enrollment in our country, with the notable mention of a higher proportion of women. This shows no negative impact in the overall university student population of the two years period of Covid quarantine in Argentina

Another dimension that emerges from the analysis of the number of students who pass two or more courses is that students who were already studying at universities adapted better to virtual learning and approved more academic subjects compared to pre-pandemic values. It is likely that this will impact positively on an increase of the graduates.

As a future work we foresee that in the coming years, it will be necessary to analyze whether the increased virtualization in education and the creation of hybrid spaces/classrooms have a positive impact on the system and how they affect different disciplines and genders.

Lastly, another analysis of the pandemic's impact on universities will be to observe the progress of students who completed their secondary education in 2020 and 2021 in their chosen university programs, to compare their progress with those of previous years.

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