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*Artículos científicos*

**De la educación presencial a la virtual en una universidad pública:  
un abordaje desde la perspectiva del estudiante, en un contexto  
de pandemia**

*From face-to-face to virtual education in a public university. An approach  
from the student's perspective, in a context of pandemic*

*Do ensino presencial ao virtual em uma universidade pública: uma  
abordagem sob a ótica do aluno, em contexto de pandemia*

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## Resumen

La educación es uno de los sectores más afectados por la pandemia, lo que ha generado la necesidad de analizar el tema desde diversas perspectivas, incluyendo la de los usuarios. Por lo tanto, este artículo aborda dicha problemática desde la perspectiva de los estudiantes universitarios, con el objetivo de comprender el proceso de adaptación a la educación virtual e identificar las dificultades y experiencias resilientes que han enfrentado.

La metodología utilizada fue cuantitativa, descriptiva y prospectiva de cohorte transversal. Se llevó a cabo en una universidad pública de Perú con una muestra de 190 estudiantes de Antropología, a quienes se les aplicó un cuestionario en línea mediante la plataforma de encuestas QuestionPro. Los resultados del estudio revelan que el 81.05 % de los estudiantes consideran la educación presencial tradicional como muy importante, mientras que el 40.53 % califica como buena la educación virtual recibida. En cuanto a las dificultades logísticas de los estudiantes, el 69.47 % manifestó haber recibido sus clases virtuales a través de un teléfono celular, el 57.37 % indica haber compartido su espacio de estudio con un familiar directo en su hogar, mientras que el 72.11 % y el 37.89 % simultáneamente apoyaron en actividades económicas de sus padres. En cuanto a la percepción de satisfacción en el uso de herramientas por parte de los docentes, entre el 55.84 % y el 61.04 % de los estudiantes consideran que el desempeño docente es bueno o aceptable.

En conclusión, la mayoría de los estudiantes universitarios opina que la educación presencial tradicional es muy importante y califica como buena la educación virtual, aunque existen limitaciones logísticas y de conectividad que han afectado el proceso de aprendizaje. Estos resultados resaltan la importancia de seguir investigando y mejorando las prácticas educativas en el contexto de pandemia.

**Palabras clave:** educación a distancia, pandemia, universidad, adaptación, nuevas tecnologías.

## Abstract

This article explores the impact of the COVID-19 pandemic on education, specifically from the perspective of university students. The study, which used a quantitative, descriptive, and cross-sectional cohort prospective methodology, was conducted at a public university in Peru and surveyed 190 Anthropology students using an online questionnaire through the QuestionPro survey platform.

The results reveal that a large majority of the students surveyed (81.05%) consider traditional in-person education as very important, while 40.53% rate the virtual education received as good. The study also found that students face logistical difficulties such as limited access to technology and having to share their study space with family members. Despite these challenges, a majority of students still reported satisfaction with their teachers' performance in the virtual learning environment.

Overall, the article emphasizes the need to continue investigating and improving educational practices in the context of the pandemic. The findings also highlight the importance of considering the experiences and perspectives of students in this process.

**Keywords:** distance education, pandemic, university, adaptation, new technologies.

## Resumo

A educação é um dos setores mais afetados pela pandemia, portanto é necessário analisar a questão de vários ângulos, e em particular o do usuário, razão pela qual o artigo aborda a partir desta perspectiva, com o objetivo de compreender o processo de adaptação à educação virtual dos estudantes universitários, identificando dificuldades e experiências resilientes. A metodologia utilizada é um estudo de coorte transversal quantitativo, descritivo e prospectivo, realizado em 190 estudantes de Antropologia de uma universidade pública do Peru, aos quais o questionário on-line foi aplicado através da plataforma de pesquisa QuestionPro. Os resultados mostram que 81,05% consideraram a educação tradicional presencial muito importante, e 40,53% mencionaram que a educação recebida é virtualmente boa. Quanto às dificuldades logísticas do aluno, 69,47% afirmaram ter recebido suas aulas virtuais via celular, 57,37% indicaram ter compartilhado com um parente direto em casa, 72,11% e 37,89% em paralelo apoiaram as atividades econômicas de seus pais. Quanto à percepção de satisfação no uso de ferramentas pelos professores, 55,84% a 61,04% mencionaram que o desempenho do ensino é bom ou aceitável. Conclui-se que a maioria dos

estudiantes considera a educação tradicional como muito importante e classifica a educação virtual como boa. Os resultados do estudo refletem uma alta avaliação do estudo presencial, devido às limitações logísticas e de conectividade que os estudantes têm.

**Palavras-chave:** Educação à distância, pandemia, universidade, adaptação, novas tecnologias.

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## Introduction

University education in the context of confinement has represented a substantial change in the face-to-face educational model, since it has required both teachers and students to implement new teaching-learning methodologies (González et al., 2015). In the case of the university proposal of the National University of the Altiplano, it has occurred in an initial context in which teachers have basic and limited training in terms of managing virtuality, as well as technological resources that are also very limited, which makes it even more difficult to adequately train to face online education.

The opening of academic development in a quarantine situation has given rise to academic development with innumerable limitations, both for teachers and, even more critically, for students, who are in a situation of confinement and lack financial resources. . According to data consulted in 2019, 74.19% of students study and work at the same time, which means that they do not have access to technological resources and that their connectivity is poor, as reflected in the research.

Despite the difficulties, virtual education, which used to be seen as a distant and underappreciated alternative, has turned out to be exponentially relevant in times of confinement. However, some teachers have refused to adapt to these changes, at least in the first instance (Morado, 2017).

Therefore, the purpose of this research is to analyze the process of adaptation to virtual university education from the perspective of the students of the School of Anthropology of the Faculty of Social Sciences of the National University of the Altiplano. For this, the difficulties and resilient experiences of both teachers and students were identified. The research focused on collecting the student's perspective based on their experiences during the Covid-19 pandemic.

## Materials and method

### Type and design

#### Population

This study has been carried out using a quantitative approach at a descriptive and cross-sectional level, as proposed by Hernández et al. (2014), with the aim of analyzing the process of adaptation to virtual education by students, through the study of the variables that intervene during the restart of academic activities virtually during the time of confinement.

The population under study was made up of students enrolled in the Professional School of Anthropology during the 2020-II semester, which comprises a total of 480 students distributed over the ten semesters of the degree. The sample, for its part, consisted of 190 students, a calculation that was made using the following formula:

Margin of error: 5% Confidence level: 95% Population: 480

The statistical equation used to calculate the population proportions was the following:

$$z^2(p \cdot q) \cdot$$

$$n = \frac{e^2 + (z^2(p \cdot q))}{N}$$

N

n= Sample size

z= Desired confidence level

p= Proportion of the population with the desired characteristic (success)

q= Proportion of the population without the desired characteristic (failure)

e= Level of error willing to commit

N= Population size

#### Instruments

Data recording was carried out by applying an online questionnaire to enrolled students, using the QuestionPro platform, a tool for the direct application of online surveys. For the processing and statistical analysis of the data, the SPSS program, v23.

#### Ethical considerations

The study was carried out under the considerations of the Declaration of Helsinki, applying the informed consent process. Since it was a compilation of student perceptions, there was no possibility of affecting the social, legal, economic or emotional order of the research participants.

## Results

### Assessment of face-to-face education

The results obtained indicate a broad assessment of face-to-face education by students, which is reflected in the application of the survey.

**Table 1.** Assessment of face-to-face education

Rating	N°	Fi	%
Very important	154	154	81.05
Not very important	24	178	12.63
Indifferent	7	185	3.68
Not important at all	5	190	2.63
	190		100.00

Source: Survey applied through QuestionPro 2020

As can be seen in Table 1, the perceptions of satisfaction of the university students of the Professional School of Anthropology reflect that they consider traditional face-to-face education very important to acquire skills, with 81.05% of students thinking so. Along the same lines, 12.63% consider it unimportant and 3.86% feel indifferent. These results indicate that face-to-face education is very necessary and important for university students.

On the other hand, virtuality has led students to seek to complete their responsibilities with the least possible effort, even settling for the minimum grade, since university education has become a secondary issue in the order of priorities, given the situation of the global health crisis. In some cases, this mentality has permeated the culture of least effort, and many students copy and paste the information they find on the internet (Rosales-Ronquillo & Hernández-Jáquez, 2020). Therefore, students highly value face-to-face education.

### Assessment of virtual education

Regarding virtual education, there is a lower valuation, as can be seen in table 2.

**Table 2.** Assessment of virtual education

Rating	N°	fi	%
Very Good	22	22	11.58
Good	77	99	40.53
Indifferent	62	161	32.63
Poor	29	190	15.26
	190		100.00

Source: Survey applied through QuestionPro 2020

The students' responses regarding virtual education indicate that 40.53% consider it good, 32.63% feel indifferent and only 11.58% rate it as very good, while 15.26% perceive it as bad. The new form of virtual education at the higher level is recent and has become an inevitable resource in times of social isolation. Students whose academic activities were carried out in person have had to adapt to virtual academic activities in an untimely manner. The use of electronic devices was once considered a distraction and an enemy of education, but currently it has become an opportunity to continue education (Cuevas Romo, 2020).

During the course sessions with the use of virtual classrooms, the lack of attention or carrying out other extra-academic activities are a distracting factor that reduces understanding and learning (Granados-Zúñiga, 2019). Integrating new technologies in university education is a complex process that implies optimizing resources, supporting, improving and innovating educational processes to transform university education still anchored to a traditional teaching paradigm (Mesa, 2013). Students may have a lot of experience in social networks and virtual life in general, but that does not mean that it is enough for their university education. A transformation of these skills is required for academic development (Mansilla y González, 2017).

### **Logistical difficulties in the use of student devices during virtual education**

**Table 3.** Use of technological equipment for virtual education

Equipment used	N°	fi	%
Cellular	132	132	69.47
Laptop	35	167	18.42
Desktop Computer	22	189	11.58
Tablet	1	190	0.53
	190		100.00

Source: Survey applied through QuestionPro 2020

In Table 3, in the component of the use of the device used by the students for the development of the class sessions, the results indicate that 69.47% of the respondents stated that they had received their virtual classes through a cell phone (Smartphone), while that 18.42% used a laptop and only 11.58% used a desktop computer. These data reflect that students do not have the necessary computer equipment for the development of virtual sessions. The answers indicate that the students adapted their acquired equipment for a different use and received the learning sessions in a precarious way. This fact is especially relevant at a time when virtual learning platforms have become an important new reality in Higher Education. (Luna *et al.*, 2019).

**Table 4.** Sharing the device with a household member

Shared use of the device	N°	fi	%
It was exclusively used for my classes	60	60	31.58
My parents also used the device	17	77	8.95
The device was shared with my siblings	109	186	57.37
The device was shared with my classmate	4	190	2.11
	190		100.00

Source: Survey applied through QuestionPro 2020

One element that draws our attention, related to the previous table, is the fact that students have indicated having shared devices with an immediate family member in their home. Specifically, 57.37% of those surveyed shared with a sibling, 8.95% shared with their parents and 2.11% shared with a classmate, while 31.58% acknowledged that the computer equipment was used exclusively for the development of virtual classes. These data indicate that the students manifest limitations for the development of the virtual sessions arranged. Virtual courses are directly involved in the development of professional competence that will allow students to respond to the problems of daily life. (Llerena y González, 2020).



## Student device connectivity for academic use

**Table 5.** Main source of internet connection used by the student

Main connection source	Nº	fi	%
Recharge of megabytes to the cellular	137	137	72.11
Fixed Internet	19	156	10.00
Wireless modem	6	162	3.16
Shared Internet	28	190	14.74
	190		100.00

Source: Survey applied through QuestionPro 2020

Regarding the sources of internet connectivity used by students from different semesters, 72.11% made temporary recharges on their cell phones, 14.74% shared the internet and 10.00% used the fixed home internet, while only 3.16% used a modem. wireless. These discrete results are correlated with the weaknesses that occurred in virtual education and report poor connectivity of the Internet network, weak accessibility to technological resources, and deficiencies in the academic training of students. In addition, the students show inadequate accompaniment by the authorities of the faculty.

In order to make an assessment of the acquisition of the Internet and the weaknesses in virtual education, a correlation is observed between temporary Internet recharges to cell phones (Smartphone) and poor Internet connectivity. This indicates that the students presented difficulties in the virtual learning sessions and when presenting their work on the virtual platforms.

## Availability of time for university education

**Table 6.** Time allocated for virtual university training

Time availability	Nº	fi	%
I only dedicated my time to study	16	16	8.42
I had another main activity: studying became a secondary activity	31	47	16.32
I shared it with other activities or chores at home	71	118	37.37
I helped in the economic activities of my parents, conditioning my time for study	72	190	37.89
	190		100.00

Source: Survey applied through QuestionPro 2020

Table 6 represents that, during the development of the academic activities of the 2020-II semester, 37.37% of the students simultaneously carried out other activities within their home, 37.89% of the students simultaneously supported their parents' economic activities. , 16.32% indicated that they had another main activity and their university studies became a secondary activity, and only 8.42% dedicated themselves exclusively to their university studies. This fact reflects a concern that students do not dedicate themselves to their studies and carry out different external activities, which can lower their grades and affect their professional training. Worse still, students can displace their studies for activities not related to their professional training.

An adequate university education implies the fulfillment of responsibilities by the student, which is even more important in the virtual modality, where the student's self-learning capacity is trusted (Orellana et al., 2016). The student participates in making decisions based on a complex process of analysis, reflection and reconstruction of their personal and professional skills, according to the level of training (Santana y Viguera, 2019).

## Perception of teacher performance in a context of virtual environments

**Tabla 7.** Perception of teaching performance in the use of new virtual tools

Student perception	Poor	Indifferent	Goog	Very good
Use of virtual tools	9.09	20.78	61.04	9.09
Use of virtual technology	7.79	23.38	55.84	12.99
Level of virtual adaptation	10.39	22.08	57.14	10.39
Professional orientation	7.79	22.08	59.74	10.79

Source: Survey applied through QuestionPro 2020

Table 7 presents the results of the perception of satisfaction in the use of tools by teachers, which show almost similar results in the use of virtual tools, management of virtual technology and the level of virtual adaptation, which oscillate between 55.84% and 61.04% of good or acceptable teaching performance in the Professional School during the 2020-II academic semester. In the use of new virtual resources in their so-called synchronous and asynchronous sessions, from 7.79% to 10.39% consider their performance deficient, which must be overcome. The biggest challenge for teachers is the deepening of digital literacy for academic purposes and the use of the virtual classroom for the teaching-learning process (Savio, 2020).

Currently, virtual classrooms correspond to a new modality that obeys a new social-health scenario and temporarily replaces the face-to-face model. This modality allows the student to acquire the necessary skills for their professional development in the future, through digital educational content designed and prepared in a way that adequately responds to the technological challenges necessary for professional training (Torres and García, 2019).

A new learning culture is required, which means moving from individual education to incorporating collaborative processes that allow the sustainable use of new technological resources (Widyasari et al., 2019).

The acceptance of the virtual approach as an asset will allow the virtual tools of the future to become allies for better teaching performance and for students to have better conditions to acquire their learning skills. Teachers face challenges and problems in the face of the demands, needs and particularities of the university student (Duarte et al., 2019).

For university professors, the best development of class sessions is face-to-face. However, the virtual approach constitutes a complement in teaching-learning with the use of virtual classrooms, and it is mandatory to design activities that are not only attractive to students, but that are relevant in content and can be perceived by students. students as such (Savio, 2020).

For the implementation of virtual education at the Universidad Nacional del Altiplano, it was used at first, through the use of the Moodle learning platform, which adapted very well for asynchronous sessions in which the student interacts with the teacher and companions. For synchronous live video conferencing sessions, the Webex, Zoom, and Google Meet platforms were used. Most of the teachers reacted, initially negatively, since they were not prepared in terms of training and, on the other hand, they also lacked technological and logistical resources. The high demand for this equipment in the local market made it so scarce, and market costs were so high and with a very limited stock, even for the same university. These factors are reflected in student perceptions, which are the result of our research.

## Discussion

### The shift to virtual education

The appearance of the covid-19 pandemic caused "the high digital transformation, abrupt and unpredictable educational changes have suddenly erupted overnight in universities around the world" (Ordorika, 2020, p. 5). Educational policies, mainly for public universities, are in crisis and inaction, since they were not prepared for such an abrupt turnaround, and even less so in conditions of mandatory quarantine that exacerbated university education in general and made visible social inequalities between regions and between universities. . This was the reality of the National University of the Altiplano, a space for cultural convergence of young people from different provinces (Incacutipa Limachi et al., 2022). In this sense, little has been considered the multidiverse reality that needs to be considered from an intercultural education perspective and incorporating adaptation strategies (Incacutipa Limachi, 2021).

In addition, the crisis situation reflected the deficiencies in the collaboration policies between the university and society, which at the time were negligible (García and Lindquist, 2020). In the current crisis situation, the lack of collaboration between the university and society has been revealed (García and Lindquist, 2020).

In other words, current university education faces numerous challenges, such as quality, student diversity, equitable access, and the provision of learning opportunities that can reduce existing barriers (Mirata et al., 2020).

The change from a face-to-face magisterial conception, with the predominance of teacher-centered training, to focusing on the student or resorting to the resources available to the student, has led to forced adaptations on both sides. This has generated high levels of educational stress in the members of the university community (Esteves Villanueva et al., 2022).

Virtual training, previously underestimated and prohibited in its use, has been a challenge for many university teachers (Llerena and González, 2020). Teachers have had to adapt to new virtual environments seeking to satisfy the demands and needs of the student (Morado, 2017). On the other hand, students have better possibilities of adaptation, given their familiarity with new technologies (Duarte et al., 2019), although with a weak orientation towards the academy, which has been reverted towards a purpose of university education.

## Conclusions

Most Anthropology university students, after their experience with virtual education, consider that traditional face-to-face education is very important, since the quality of face-to-face studies exceeds those carried out online. In addition, less than half of the students rate the virtual education received as good. As for the logistical difficulties of the student, the majority used a cell phone for the development of the virtual class sessions, sharing with a direct relative in their home (brother), which indicates the precarious conditions in which the activities were carried out. academic.

Regarding the connectivity and internet used by the students of different semesters, the majority used temporary recharges on their cell phones, which gave them a limit of megabytes. Likewise, the availability of time for study was accompanied by the economic activities of their parents, even in many cases, it was the main activity, which conditioned the time dedicated to study as a second priority.

Finally, the perception of teaching performance in a context of virtual environments ranges from good to acceptable, which demonstrates the need for adequate training for the management of virtual environments.

## Future lines of research

The present study offers a preliminary vision about virtual education in university students, which provides a basis to explore new lines of research in the future. The transition to an online education has created opportunities for young people who previously could not access professional education, which has become a side effect of the pandemic. Although this evolution has come with its difficulties, it has also provided concrete opportunities that deserve to be the subject of future scientific investigation, analysis, and approach.

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Writing - Preparation of original draft	Duverly Joao Incacutipa Limachi, Ángela Rosario Esteves Villanueva, Javier Santos Puma Llanqui, Héctor Luciano Velásquez Sagua, Benjamín Velasco Reyes «same»
Writing - Proofreading and editing	Javier Santos Puma Llanqui, Héctor Luciano Velásquez Sagua, Benjamín Velasco Reyes «same»
Supervision	Javier Santos Puma Llanqui, Héctor Luciano Velásquez Sagua «same»
Project Management	Duverly Joao Incacutipa Limachi «principal»
Fund Acquisition	Duverly Joao Incacutipa Limachi «principal»