

Satisfaction of Peruvian university students with Distance Education

Dra. Elizabeth Lizbel Jurado-Enriquez¹, Mg. Kelly Fara Vargas-Prado², Mg. Ursula Rosalia Aniceto-Norabuena³, Mg. Carlos Geraldo Ventura-Quiroga⁴, Mg. Mery Fiorella Ventura-Quiroga⁵, and Mg. Pierina Gianella Puma-Zegarra⁶

^{1,4}Universidad Tecnológica del Perú, Perú, c20422@utp.edu.pe

²Universidad Autónoma de Ica, Perú, kelly.vargas@autonmadeica.edu.pe, carlos.ventura@autonmadeica.edu.pe

³Universidad Nacional Santiago Antúnez de Mayolo, Perú, uaniceton@unasam.edu.pe

⁵Universidad San Luis Gonzaga, Perú, fventuraq24@hotmail.com

⁶Hospital Regional de Ica, Perú, gianellazegarra1901@gmail.com

Abstract— The satisfaction of university students is a crucial aspect in the educational environment, as it influences their academic experience, emotional well-being, and academic performance. Understanding the factors that contribute to student satisfaction is fundamental to improve the quality of higher education and promote an environment conducive to learning and personal development. The purpose is to analyze the satisfaction of Peruvian university students with distance education; the study is quantitative, cross-sectional, and descriptive, conducted in a private university in the region of Ica in Peru, among 139 students. A questionnaire of sociodemographic, academic, and labor variables was used, with the scale of satisfaction with virtual courses (SVC-S). A descriptive and bivariate analysis was carried out; as for the results, 25,2% were dissatisfied and 74,8% were satisfied with taking their classes through the virtual modality. According to the Statistical analysis revealed that there are no significant differences with the sociodemographic, academic, and labor variables ($p>.05$). Thus, students agree with the virtual modality because it fits their needs.

Keywords— Student Satisfaction, Distance Education, Distance Learning, E-Learning and Satisfaction Evaluation

I. INTRODUCTION

Higher education institutions around the world, as well as other organizations, offer educational services to meet the educational needs of individuals, in terms of professional, scientific and personal growth, offering them activities and experiences suitable for their formation as individuals and professionals [1].

In Latin America it was recognized that, although higher education institutions have focused efforts and resources of different kinds (economic, human, didactic, among others), at present students are not satisfied with the infrastructure and quality of teaching because there are still not enough scenarios or properly trained teachers for the full exercise of the activities, clarifying that there are also good educators, but not all of them are good [2].

It is important to urgently respond to the demands and

needs of students to improve the quality of teaching by taking advantage of the use of technologies. Furthermore, to achieve learning, it is important to implement actions that contribute to teacher training so that, according to their performance, they can guarantee learning through training and innovations in teaching and the design of learning experiences.

The high rates of poverty and vulnerability in Latin American countries such as Peru, has led to see education under two approaches; the first, as a step towards unity and mitigation of inequalities and the second approach, as a business that continues to support inequality, since, generally, student satisfaction is associated in these countries with the economic aspects and the poor supervision of universities and colleges, which in many cases show deficiencies in the quality of their service [3].

Higher education institutions in Peru should focus not only on return on investment and market share indicators, but also on the skills and abilities that society values in its graduates [4].

Students may experience dissatisfaction if they perceive the quality of teaching and educational resources to be low, which can hinder their learning and academic development. A university environment that lacks inclusion, support, and opportunities for participation can contribute to student dissatisfaction, especially those who feel marginalized or undervalued. Excessive academic load, tight deadlines, and high expectations can generate stress and anxiety in students, which negatively affects their overall satisfaction and well-being. Inadequate availability of academic support services, such as tutoring, advising, and learning resources, can hinder student success and lead to feelings of dissatisfaction. Addressing these causes comprehensively and proactively is critical to improving college student satisfaction and promoting a positive and nurturing educational environment.

At present, a different perspective is required where an educational model that consolidates respect, tolerance, participation, and equal opportunities that guarantees the right

Digital Object Identifier: (only for full papers, inserted by LACCEI).
ISSN, ISBN: (to be inserted by LACCEI).

of any person to be educated together with his or her peers with a quality education must be considered.

In Peru, access to technology, such as computers and the Internet, has been increasing in recent years, but significant disparities still exist, especially in rural areas and among disadvantaged socioeconomic groups. According to the National Institute of Statistics and Informatics (INEI), in 2020, approximately 50% of Peruvian households had Internet access.

Peru's Ministry of Education has implemented various initiatives to strengthen the digital education infrastructure in the country. This includes connectivity programs in schools and universities, as well as the distribution of electronic devices and digital educational resources.

Virtual or distance education has experienced significant growth in Peru in recent years, especially at the university level. Many educational institutions have expanded their offerings of virtual programs to reach students throughout the country and provide flexible education options, especially in higher education.

As virtual education has become more common, there has been a growing interest in evaluating the quality of these programs and student satisfaction. Indicators of quality include accessibility of study materials, interaction with teachers and peers, effectiveness of learning platforms, and available technological support.

While virtual education offers opportunities for access and flexibility, it also presents challenges, such as the digital divide, lack of face-to-face interaction and the need for stronger personal discipline. It is important to take these factors into account when assessing student satisfaction with virtual education in Peru.

To assess the quality of distance education in Peru, it is necessary to consider several aspects, such as technological infrastructure, teacher training, curriculum design, accessibility for students, and online interaction. Analyze the availability and quality of the technological infrastructure in the country, including Internet access, electronic devices and educational platforms used. Investigate the training programs offered to teachers to adapt to distance learning, as well as evaluate their effectiveness in the development of pedagogical and technological skills. Evaluate the adequacy of curriculum design for distance education, considering the inclusion of multimedia resources, interactive activities, and online evaluations.

Analyze the accessibility of distance education for different groups of students, including those in rural areas, with disabilities or with economic limitations.

Evaluate the quality and frequency of interaction between teachers and students in virtual environments, as well as the availability of support resources, such as discussion forums and online tutoring. Examine the academic outcomes of students participating in distance education programs compared to those in face-to-face modalities, considering academic performance and student retention. Collect student

feedback on their distance learning experience, including their perceptions of the quality of instruction, ease of access to educational resources, and support received from faculty. Investigate the economic and social impact of distance education in Peru, including equitable access to education, employment opportunities and skills development for the labor market.

Therefore, the general problem is presented: What are the levels of satisfaction of Peruvian university students with distance education? Likewise, the objective is to analyze the satisfaction of Peruvian university students with distance education.

A satisfaction survey of Peruvian university students is relevant for several reasons: Obtaining direct feedback from students about their academic experience, resources, services and institutional environment allows identifying areas for improvement and promoting changes that lead to better educational quality.

The study can reveal students' specific needs, concerns and challenges, enabling institutions to design programs and services that address these critical areas. Student satisfaction is closely related to student retention. By understanding what influences student satisfaction, universities can implement strategies to improve retention and reduce dropout rates. The information gathered through the study provides concrete data to support informed decision making on issues related to strategic planning, resource allocation, and institutional policy development.

It should be noted that existing gaps and problems should be reduced and even rethink a model that develops educational processes with a diversity of benefits and characteristics for students in order to have results for all people who require a quality education.

Finally, a Peruvian university student satisfaction survey is essential to improve educational quality, address student needs and concerns, promote student welfare and support student retention, thus contributing to the overall success of higher education in the country.

The following is the theoretical basis for satisfaction, which is said to be the state of pleasure that the individual feels when his or her expectations are met; in the student environment, it refers to the level of well-being that students perceive when their academic expectations and needs are met [5].

Students and their satisfaction are related to the way in which educational institutions meet their needs, expectations and interests according to their perception, so it will always be subjective, since it is their perception of things according to their interests [6].

Studying university student satisfaction becomes relevant because measuring and evaluating it contributes to significantly optimizing educational quality by determining the academic and administrative elements that need to be improved through pertinent and timely decision making. Student satisfaction enables their academic success, their permanence in the institution and word-of-mouth publicity that impacts on the prestige and survival of universities [7].

From the literature it can be said that the satisfaction of Peruvian university students with distance education refers to the degree of contentment, compliance, or conformity that students experience with respect to their learning experience in distance education modalities, such as online courses, virtual programs, or blended learning. This satisfaction can be influenced by a variety of factors, such as the quality of educational materials, interaction with teachers and peers, accessibility of technological resources, effectiveness of online learning platforms, institutional support, and flexibility of study schedules. Evaluating student satisfaction with distance education allows institutions to identify areas for improvement and design strategies to offer a more effective and satisfactory educational experience.

To structure student satisfaction, four dimensions are considered: teaching, institutional services, teacher-student relationship and professional training, with greater relevance in the teaching area, which includes variables such as well-qualified teachers and as the center of education, learning climate, educational quality, class hours, and tutoring, which represented an important indicator, indicating that these help to improve student satisfaction during the duration of university education. Within institutional services, reputation, good school image, available digital platforms and bibliographic resources were the variants with the greatest presence in the results obtained in the research [5]. Institutional image greatly influences educational quality and student satisfaction, as research among students of private universities shows that good image and reputation are among the most important factors when choosing an educational institution [8]. Finally, within the teacher-student relationship and professional training, they mention how social relations are an important part, since a direct relationship has been found between satisfaction and social relations and tasks, as well as their repercussion in the professional sphere [9].

On the other hand, there are theories related to student satisfaction, one of them being the theory of disconfirmation related to the current philosophy that considers the student as a consumer and points out that to measure satisfaction it is appropriate to use the process of disconfirmation of the quality perceived by the user, to understand their satisfaction with the service experience [10].

The theory of social reference is also established, which focuses on the relationship of situations, the type of reference

that students consciously or unconsciously prefer when making comparisons with current scenarios and the way in which they make their judgments, establishing that depending on the conditions of life before entering university, students would have a sense of satisfaction with their lives [7]. Likewise, the Theory of Motivation: This theory examines how motivational factors affect people's behavior and attitudes. In the case of distance education, students may feel more satisfied if they are intrinsically motivated by self-directed learning and perceive that the platform offers opportunities to achieve their educational and career goals.

To conclude, these theories provide conceptual frameworks for understanding the factors that influence Peruvian university students' satisfaction with distance education, which can help inform strategies to improve the educational experience in this specific context.

II. METHODOLOGY

Quantitative study, characterized by the collection and analysis of numerical data to understand social phenomena that require attention [11], the study was a cross-sectional, descriptive study developed during the period of 2023. The sample consisted of 139 students from a private university in the region of Ica, the selection was made through non-probabilistic convenience sampling. Only students of the virtual modality participated, excluding all students who have been receiving their classes through the face-to-face or blended modality.

The instrument used for data collection was a questionnaire of sociodemographic, academic and labor data including age range (< 18 years, 18-25 years, 26-30 years and > 30 years); sex (male, female); marital status (single, married, cohabiting, separated/divorced, widowed); cycle being studied (first cycles, last cycles); second professional career (yes, no); employment status (only studying, studying and working); as well as a short scale to measure satisfaction with the virtual courses (SVC-S) [12], composed of a total of 4 items, with response options on a Likert scale (1 Strongly disagree to 5 Agree). The estimated response time is approximately 10 minutes, being a self-applied instrument, it was applied virtually through a Google Forms form.

The processing was carried out using an Excel spreadsheet and the SPSS version 26.0 statistical package, with which the descriptive statistical analysis was carried out to prepare tables with their respective absolute and relative frequencies; a bivariate analysis was also carried out to evaluate significant differences with the Chi-Square test (X^2).

A series of ethical criteria based on the Declaration of Helsinki of the World Medical Association were considered, safeguarding the integrity of the participants; each of the

authors considered in the study has also been cited and referenced; informed consent was integrated, so that the participants know what the study is about and also accept to participate in it, being absolutely voluntary.

III. RESULTS

Of the participants (n= 139), the greatest proportion were between 18 and 25 years of age (62,6%). The average age was 24 years; 70,5% were female; 88,5% were single; 69,1% were in their first cycles of studies, 77,7% were studying their first professional career and 52,5% were studying and working (Table 1).

TABLE 1.
SOCIO-DEMOGRAPHIC, ACADEMIC AND LABOR DATA OF UNIVERSITY STUDENTS

		Frequency	Percentage
Gender	Masculine	41	29,5%
	Feminine	98	70,5%
Marital status	Single	123	88,5%
	Married	5	3,6%
	Cohabitant	7	5,0%
	Separated/divorced	3	2,2%
	Widowed	1	0,7%
Cycle in progress	First cycles	96	69,1%
	Last cycles	43	30,9%
Second profession	yes	31	22,3%
	no	108	77,7%
Employment status	Study only	66	47,5%
	Study and work	73	52,5%
Age range	Under 18 years old	17	12,2%
	18 - 25 years old	87	62,6%
	26 - 30 years old	11	7,9%
	more than 30 years old	24	17,3%
Age, Average (AA)		24,92 (AA 6,522)	

Table 2 shows that the Mean of the satisfaction towards virtual courses is 15,01; the Median is 16,00; having as Standard Deviation a value of 4,566; with a Variance of 20,848; its asymmetry was -,805; finally, the value of Kurtosis was -,253.

TABLE 2.
DESCRIPTIVE STATISTICS OF SATISFACTION WITH VIRTUAL COURSES

N°	Valid	139
	Lost	0
Mean		15,01
Median		16,00
Standard deviation		4,566
Variance		20,848
Skewness		-,805
Kurtosis		-,253
Range		16

Table 3 shows the results of the variable satisfaction with the virtual courses, where 25,2% are dissatisfied and 74,8% of students are satisfied.

TABLE 3.
SATISFACTION WITH VIRTUAL COURSES

	Frequency	Percentage
Unsatisfactory	35	25,2%
Satisfactory	104	74,8%
Total	139	100,0%

Table 4 shows that there are no significant differences because the p-values obtained in each of the sociodemographic, academic and occupational data were greater than 0.05. Age range ($X^2=,448$; $p=,930$); Sex ($X^2=,516$; $p=,473$); Marital status ($X^2=6,719$; $p=,152$); Cycle ($X^2=1,799$; $p=,180$); Second Career ($X^2=,008$; $p=,927$) and Work status ($X^2=3,267$; $p=,071$).

TABLE 4.
CROSS-REFERENCE OF SOCIO-DEMOGRAPHIC, ACADEMIC AND LABOR VARIABLES WITH SATISFACTION TOWARDS VIRTUAL COURSES.

Socio-demographic, academic and labor	Satisfaction				$X^2(p^*)$	
	Unsatisfied		Satisfied			
	S	%	S	%		
Age range	Under 18 years old	5	29,4%	12	70,6%	,448 (,930)
	18 - 25 years old	22	25,3%	65	74,7%	
	26 - 30 years old	2	18,2%	9	81,8%	
	More than 30 years old	6	25,0%	18	75,0%	
Gender	Masculine	12	29,3%	29	70,7%	,516 (,473)
	Feminine	23	23,5%	75	76,5%	
Marital status	Single	28	22,8%	95	77,2%	6,719 (,152)
	Married	2	40,0%	3	60,0%	
	Cohabitant	2	28,6%	5	71,4%	
	Separated/divorced	2	66,7%	1	33,3%	
	Widowed	1	100,0%	0	0,0%	
Cycle in progress	First cycles	21	21,9%	75	78,1%	1,799 (,180)
	Last cycles	14	32,6%	29	67,4%	
Second profession	yes	8	25,8%	23	74,2%	,008 (,927)
	No	27	25,0%	81	75,0%	
Employment status	Study only	12	18,2%	54	81,8%	3,267 (,071)
	Study and work	23	31,5%	50	68,5%	

n = Sample; % = Relative frequency; * Chi-square tests for difference of proportions.

Table 5 details the answers given by the students on the satisfaction towards the virtual courses where the highest percentage has marked the answer Agree, for Q1, Q3, and Q4, with 41,7%, 35,3%, 36,7% respectively; for Q2 36,0% marked the answer option Neither Agree/Nor disagree.

TABLE 5.
RESPONSES TO THE SHORT SCALE TO MEASURE SATISFACTION WITH ONLINE COURSES (SVC-S)

	TD	AD	ED	NA/ND	DE
Q1. P1. Virtual courses are interesting.	7,9%	14,4%	2,9%	33,1%	41,7%
Q2. The virtual courses meet my expectations.	8,6%	13,7%	7,9%	36,0%	33,8%

Q3. Virtual courses are a good alternative for learning	9,4%	15,1%	10,8%	29,5%	35,3%
Q4. In general, I am satisfied with the virtual courses.	10,1%	11,5%	7,9%	33,8%	36,7%

Note: SD=Strongly Disagree; SD=Somewhat Disagree; D=Disagree; NA/ND=Neither Agree/Nor disagree; ND=Nor Disagree

IV. DISCUSSION

Currently, assessing student satisfaction towards the virtual modality of Distance Education provides valuable information to identify areas for improvement and optimization, as well as to design specific interventions aimed at increasing the quality and effectiveness of online learning.

In the sample studied, 74,8% showed satisfaction with the virtual courses; during the pandemic, virtuality contributed to the students not missing their classes, being the only way to continue with them [12], [13]; This modality ended up remaining as a form of teaching in higher education; the pandemic precipitated the adaptation to virtual education, forcing the pedagogical adaptation to all educational levels. At the university level, society has placed an onerous obligation on institutions and teachers to implement multimedia didactic strategies [14]; online learning environments offer new forms of communication that allow teachers and students to exchange information, knowledge, and ideas, both asynchronously and in real time [15]. For virtual classes to be dynamic, TICs need to be used, as they provide a range of strategies to focus students' attention [16]; hence the importance of adequate and timely technical support during digital education that can improve students' academic self-perception and the online course [17].

The learning that takes place in a virtual modality favors the participants in three dimensions: social, professional, and personal [18]. There are different degrees of satisfaction among students regarding how they feel with the incorporation of the virtual classroom to their subjects, and it has been observed that some even improve their academic performance, while those who do not have a computer or Internet access due to economic problems find their learning more complicated [19].

In Peru, another study was conducted on satisfaction with virtual classes, with results similar to this research, where 51,9% were partially satisfied and 42% satisfied, finding as positive aspects the evaluation system, the level of difficulty of academic activities, the additional resources used by teachers and the organization of the courses; they also established that private university students had a more favorable perception than those who were studying at a public university [20].

According to a study conducted in Ecuador at the Universidad de las Américas to students belonging to the

Industrial Engineering career, showed that a group presented high levels of satisfaction, however, there is a minority percentage that is not satisfied, and this is due to the type of platform used at the time of classes. [21].

Along the same lines, a study was conducted in Colombia among students at the business school of a public university in the city of Cúcuta, where the general perception of university students is favorable towards virtual education. [22].

Other studies indicate that the use of virtual environments has not been as expected [23], with results that 55.5% of the participants of virtual programs had a positive perception. That is why it is necessary and important to provide technical support to teachers and students in order to guarantee not only timely but also permanent solutions to problems that may arise so as not to affect the development of the pedagogical process [24].

Another finding, indicates that academic satisfaction is moderate with a downward trend, which confirms the dissatisfaction of the sample analyzed, despite being a licensed university and complying with the basic quality conditions required. In short, at the beginning of the pandemic there was no preparation to face this situation, which caught the traditional university education system unawares [25].

In a study conducted at a Peruvian university, the results showed that the levels of student satisfaction with the virtualization of the teaching-learning process reached a medium level [26], this means that there are aspects that need to be worked on for immediate improvement in order to provide quality education and ensure that students of the different modalities have the same quality of education.

It can be concluded that a greater proportion of Peruvian university students are satisfied with distance education. On the other hand, no significant differences were found with respect to gender, age, marital status, cycle of study, and whether it is their second professional career. That is why teachers need to continue training in the use of ICTs in order to achieve a better teaching process in this virtual modality, so that students continue to bet on this type of education. In Peru there are large inequality gaps, where not everyone has the same opportunities, which is why the virtual modality has allowed many people to continue their higher education studies, allowing them to have greater opportunities that will not only contribute to their personal and professional growth, but also to the stability of their family.

With respect to the COVID-19 pandemic, it has motivated players in the educational field to improve their skills and adapt to new ways of teaching. As a result of their dedication,

they have succeeded in meeting the needs of students in online classes [27].

Likewise, students had a somewhat positive opinion about online education, which highlights the importance of universities continuing to strengthen the digital and pedagogical skills of teachers. This will allow them to improve their performance in virtual teaching, ensuring a more effective educational experience, contributing to achieve a quality education training future professionals trained to achieve labor insertion and meet the demands of the labor market and this competitive society [28].

A large percentage of students show a significant academic commitment and recognize the relevance of distance education to meet their learning needs. This modality emerges as a viable alternative to substitute face-to-face teaching, facilitating the educational process through the application of diverse didactic and pedagogical techniques [29].

According to the literature, at the beginning of the pandemic, the education sector was not prepared to carry out virtual classes, having a series of shortcomings that only frustrated and generated dissatisfaction, to this was added that students with low economic resources did not have the technological tools that would allow them to receive their classes properly, poor connectivity also ended up contributing in some cases to desertion; Over the years this has been improving, becoming the virtual modality an option for people who wish to continue with their university studies and for different reasons cannot attend in person; being a great option for personal and professional growth.

REFERENCES

- [1] M. Rivera-Heredia and A. Méndez-Puga. “Proposals from Psychology students to improve university services.” *Teaching and research in Psychology*, vol. 3, n°1, pp. 10-24, 2021. <https://www.revistacneip.org/index.php/cneip/article/view/171>
- [2] J. Andrey, A. Guataquira, E. Romero and P. Reyes. “Satisfaction with Educational Quality in Higher Education”. *Podium*, vol. 38, pp. 37-50, 2020. 10.31095/podium.2020.38.3
- [3] F. Ganga, N. Alarcón, and L. Pedraja. “Service quality measurement: The case of the guaranteed court from the city of Puerto Montt – Chile”. *Ingeniare*, vol. 27, n°4, pp. 668-681, 2019. <https://DOI.org/10.4067/S0718-33052019000400668>
- [4] E. Nauca, P. Chávarry, A. Acevedo, and E. Román. “Satisfaction of university students: Quality Model.” *Scientific Magazine of Scientific and Technological Entrepreneurship*, n°2, pp.1-16, march, 2023. <https://revista.ectperu.org.pe/index.php/ect/article/view/11>
- [5] M. Mireles and J. García. “Student satisfaction in university students: a systematic review of the literature”. Universidad de Costa Rica; 2022. <https://doi.org/10.15517/revedu.v46i2.47621>
- [6] E. Peralta and M. Silva. “Analysis of student satisfaction in Higher Education Institutions in Mexico”. *Atenas, Scientific-Pedagogical Magazine*, vol. 4, n°48, pp. 144-157, 2019. <http://atenas.umcc.cu/index.php/atenas/article/view/320>
- [7] J. Sánchez. “Student satisfaction in higher education: Validity of its measurement”. *Sergio Arboleda University: Colombia*, pp.139, 2018. <https://repository.usergioarboleda.edu.co/bitstream/handle/11232/1027/S>
- [8] M. Acuña-Benites, I. Carhuanchu-Mendoza, O. Bravo-Chávez and C. Venturo- Orbegoso. “Determinants of student satisfaction in a private university in Lima Peru”. *Inclusions Magazine*, vol. 8, n°11, pp. 17-37, 2021. <https://revistainclusiones.org/index.php/inclu/article/view/2524>
- [9] A. Chuyma-Huilca, S. Berrocal-Villegas, M. Mendoza-Hidalgo and A. Romero-Díaz. Evaluation of the organizational climate and satisfaction of students of the international business major at a university in Lima, Peru. *Inclusions Magazine*, vol. 8, n°11, pp.56-66, 2021. <https://revistainclusiones.org/index.php/inclu/article/view/231>
- [10]M. Mauricio, J. Galindo and M. Blanco. “Theoretical perspective of the satisfaction of students from business schools at private universities” *VinculaTégica EFAN*, vol. 9, n° 3, pp. 175-202, 2023. <https://vinculategica.uanl.mx/index.php/v/article/view/384>
- [11]R. Hernández-Sampieri, C. Fernández-Collado, and P. Baptista-Lucio. “Sample selection. In Research Methodology”. 6ta Ed. México: McGraw-Hill, 2014
- [12] J. Ventura-Leon, T. Caycho-Rodríguez, J. Mamani-Poma, L. Rodríguez-Dominguez and L. Cabrera-Toledo. “Satisfaction towards virtual courses: Development and validation of a short measure in COVID-19 times”. *Heliyon*, vol 8.2022. <https://doi.org/10.1016/j.heliyon.2022.e10311>
- [13]S. Tejedor, L. Cervi, F. Tusa, A. Parola. “Education in times of pandemic: reflections of students and teachers on virtual university teaching in Spain, Italy and Ecuador.” *Latin Magazine*, vol. 78, n°1, 2020. <https://dialnet.unirioja.es/servlet/articulo?codigo=7625686>
- [14]K. Cáceres-Piñaloza. “Educación virtual: Creating emotional, coexistence and learning spaces in times of COVID-19”. *ScienceAmerica*, vol. 9, n°2, pp. 38, 2020.
- [15]B. Inzunza, C. Márquez. and Duk, M. “Evaluation of the virtual Human Genetics course in health sciences university students”. *Higher Medical Education*; vol. 33, n°3, 2019. <https://www.medigraphic.com/pdfs/educacion/cem-2019/cem193d.pdf>
- [16]B. Juanes, O. Munévar and H. Cándelo. “Virtuality in education. Key aspects for the continuity of teaching in times of pandemic”. *Conrado Magazine*, vol 16, n°76, pp. 448-452, 2020. <https://conrado.ucf.edu.cu/index.php/conrado/article/view/1510>
- [17]S. Hassan, F. Algahatani, R. Zrieq, B. Aldhadi, A. Atta, R. Obeidat and A. Kadri. “Academic self-perception and course satisfaction among university students taking virtual classes during the covid-19 pandemic in the kingdom of saudiarabia (Ksa)”. *Educ. Sci*; vol.11, n°3, 2021. <https://www.mdpi.com/2227-7102/11/3/134>
- [18]J. Rivera, I. Encalada, and Ú. Romani. “Student satisfaction in virtual education: An international systematic Review”. *Revista Chakiñan*, vol. 16, 2022. <https://doi.org/10.37135/chk.002.16.11>
- [19]C. Suasti. Satisfaction of higher education students with virtual classes. Ecuador: Polytechnic Institute of Leiria/Technical University of Manabí; 2020. Retrieved from: https://iiconline.ipleiria.pt/bitstream/10400.8/3641/1/UPTIC_Relatorio-CLAUDIA%20SUASTI_27agosto18.pdf
- [20]E. Estrada, N. Gallegos,Y. Paredes, R. Quispe and F. Córdova. “Satisfaction of Peruvian students with virtual classes during the COVID-19 pandemic. *University and Society Magazine*, vol. 14, n° S6, pp. 678-685, 2022. <https://rus.ucf.edu.cu/index.php/rus/article/view/3499>
- [21]I. Bautista, G. Carrera, D. Laverde. (2020). “Student satisfaction evaluation of virtual classes”. *Minerva Magazine of Scientific Research*; vol. 1, n°2, pp. 05-12, 2020. <https://dialnet.unirioja.es/servlet/articulo?codigo=8377947>
- [22]G. Huapaya, R. Jarama, R. Sumire and E.Sumire. “Quality of service and satisfaction of university students with virtual education in times of Pandemic: A sociodemographic perspective. Encounters”. *Journal of Human Sciences, Social Theory and Critical Thinking*, vol. 17, pp. 250-275, 2023. <http://doi.org/10.5281/zenodo.7527667>
- [23]P. Humanante-Ramos, J. Fernandez-Acevedo and C. Jimenez. “Virtual classrooms in university contexts: perceptions of use by students.” *SPACES Magazine*; vol. 40, n°2, 2019. <http://r.issu.edu.do/1.php?l=6971E>
- [24]L. Taveras-Pichardo, A. Paz-López, E. Silvestre, A. Montes-Miranda and V. Figueroa-Gutiérrez. “Satisfaction of university students with the virtual classes adopted in the framework of the COVID-19 pandemic.” *Magazine*

- of *Media Education and ICT*, vol. 10, n°2, pp. 139-162, 2021. <https://doi.org/10.21071/edmetec.v10i2.12908>
- [25] E. Olivera. "Learning strategies in students of the Faculty of Law of a private university, Lima." *Scientific Journal of Social Communication*, n° 4, 2022. <http://revistacientifica.bausate.edu.pe/index.php/brc/article/view/33>
- [26] M. Alcántara, E. Caro, M. Solis and H. Lopez. "Student satisfaction levels in an engineering faculty due to the virtualization of teaching during the COVID 19 pandemic." *Latin Science Multidisciplinary Scientific Magazine*, vol. 5, n°3, pp. 3723-3734, 2021. https://doi.org/10.37811/cl_rcm.v5i3.560
- [27] R. Flores, S. García-Pisconte, and N. Gavez. "Teaching performance in virtual platforms and satisfaction of online classes: An overview from the perception of Peruvian university students". *Contemporary Dilemmas: Education, Politics and Values*, vol. 10, n°2, pp. 1–19, 2023. <https://doi.org/10.46377/dilemas.v2i10.3486>
- [28] E. Estrada, Y. Paredes, R. Quispe and J. Mori. (2022). "Perception of peruvian university students about virtual education during the COVID-19 pandemic". *Archivos Venezolanos de Farmacología y Terapéutica*, vol. 41, n°9, pp. 647–652, 2022. <https://doi.org/10.5281/zenodo.7478490>
- [29] J. Roa, V. Morales, and I. García. "Distance education and its impact on incoming students in medical sciences" (Original). *Roca: Scientific-Educational Journal of Granma Province*, vol. 19, n°1, pp. 112–124, 2023. <http://portal.amelica.org/ameli/journal/440/4403729008/>