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Canvas LMS and the Learning Process: An Explanatory Study

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***Abstract* – The aim of this research was to establish whether there is a connection between the use of the Canvas platform and the learning process of students by teachers of the faculty of economics of a private university in Trujillo, Peru. The methodology adopted was quantitative, employing a basic approach. The research design utilized was a simple correlational model, where upon applying 2 questionnaires to 52 teachers distributed among the academic administration programs, accounting, economics and international business in October 2023. It was determined that there is a wide use of the Canvas platform (78.8%) and the student learning process was valued as medium (51.9%). Subsequently, by performing the Kolmogorov-Smirnov normality test, it was found that the data does not have a normal distribution, therefore, to test the general hypothesis, Spearman's Rho coefficient was used (p-value = 0.014), determining that there is a low relationship between the use of the Canvas platform and the learning process. This work provides extensive information on the use of this platform and the learning process in a post pandemic Covid-19 environment.**

***Keywords* – Canvas platform, student learning, online learning, educational technology, academic process.**

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1. Introduction

Following the global outbreak of the COVID-19 pandemic, the world experienced an unprecedented transformation in all aspects of daily life. The education sector, in particular, was confronted with major obstacles as it is adjusted to the constraints imposed by the health crisis. Measures of social distancing, temporary closure of educational establishments and switching to virtual modalities became the usual routine [1].

For Peru, 2022 presented an educational reality characterized by resilience and adaptation to the changes imposed by the pandemic, but despite efforts to mitigate the negative impact on education, considerable challenges remain. Thus, the digital divide, unequal access to technological resources and difficulties in the effective implementation of virtual platforms have generated disparities in the educational process. In response to these exceptional circumstances, the Peruvian education system was compelled to integrate virtual learning platforms to guarantee the continuity of schooling. This shift towards virtuality has been a crucial measure to facilitate interaction between teachers and students, providing a viable alternative for the delivery of classes and educational content. However, the widespread implementation of these technologies has not been without challenges, from infrastructure limitations to the need for teacher training in new pedagogical methodologies [2].

This convergence of post-COVID-19 factors and the transition to virtual education in Peru in 2022 poses a problematic reality that demands a detailed evaluation. The effectiveness of the integration of virtual platforms and their impact on educational equity become critical aspects to address in order to guarantee an inclusive and quality learning process in this new educational era. This research was developed in the Faculty of Economics of a private university in Trujillo, where the research problem was posed: What is the relationship between the use of the Canvas platform and the perspective of student learning by teachers of the study programs of Administration, Accounting and Economics and International Business in the second semester of the year 2023?

To find the answer to the research question, it was decided to work on pedagogical theories and learning models that explore the interaction between [3] Canvas Platform and [4] learning perspective. By applying these theories to the specific context of the Faculty of Economics, the aim is to advance the understanding of how the Canvas platform at a private university in Trujillo can be used effectively to improve the quality and effectiveness of student learning.

In works such as the one by [5] the general objective was to determine the influence of the use of virtual platforms as a tool for collaborative learning among students. It was concluded that although students perceive the use of technology as something positive, it is the deficient economic management that ends up affecting the learning process and student satisfaction, which leads to weak teaching.

Also, [6] in his research, established the objective of determining the relationship between the use of the Canvas platform and the academic performance of students in the course "Architectural Technology 1" of the School of Architecture. The results obtained indicated that students with extensive use of the Canvas interface, achieved very good evaluations than the other students who had a minimal use. The conclusion was that there is a positive correlation in the use of the Canvas interface and the academic performance of the students of Architectural Technology 1 with a coefficient rho = 0.538 and significant $p=0.000 < 0.05$.

Also, in research [3], it was sought to determine the relationship between the use of that platform with the development of linguistic skills (English language), highlighting a significant impact on listening skills (76. 3% pass rate and 13 average points), writing (92.8% pass rate and 16 average points), and oral expression (100% pass rate and 17 average points), where the reading skill showed minimal influence (represented by 92.7% pass rate and 16 average points). The main conclusion reveals that more time spent using the Canvas virtual platform is associated with an increase in the linguistic skills approved and perceived by the students.

And finally, [7] in his study "Use of IT for teaching university professors", aimed to know the factors that predict the use of Information and Communication Technologies in professors. The sample consisted of 208 professors working at the Pontificia Universidad Católica del Perú, observing that 69% of them felt confident in using ICTs, and emphasized that Wireless Fidelity (WI-FI) is the least accessible technological resource. Regarding technical support, more than 50% agreed that the service was adequate in terms of effectiveness. Concluding that in order to implement new ICTs successfully, it is necessary to consider both internal and external factors of teachers, such as: technological culture, as well as their pedagogical beliefs.

2. Objectives

This section outlines the aims of the study, focusing on exploring the connection between the use of digital learning platforms and educational outcomes. In particular, it centers on how the Canvas platform is used by teachers and how this relates to their perceptions of the student learning process.

The objective of this study is to determine the relationship between the use of the Canvas platform and the student learning process as perceived by teachers. To achieve this, the study seeks to identify the degree of use of the Canvas platform, explore the perspective on the student learning process, and analyze how the use of Canvas relates to each dimension of that process.

3. Literature Review

This section presents the theoretical foundation of the study by reviewing relevant literature on virtual learning platforms, the Canvas platform and its components, the student learning process, and the stages and dimensions involved in that process.

3.1. Virtual Learning Platforms

Virtual platforms have become one of the most important support tools for learning and are defined as a virtual teaching environment where a space is created for communication to take place, allowing learning to become dynamic and interactive. This is achieved through the use of structured and cultural content, in addition to joint and collaborative activities, using technological tools, such as Information and Communication Technologies (ICT) which, according to the Information Technology Association of America (ITAA), seek to manage information through the use of information technology [8], in addition, they foster the acquisition of knowledge, develop motivation and interest, as well as other extra personal training skills. In addition, virtual learning platforms are considered to be the applications that are located on the Internet, hosted in a server or data cloud, in which a set of learning activities are managed, such as courses created by teachers, which are accessed by students [9]. Finally, [10] indicated that the use of the Canvas platform can be assessed as deficient, inefficient and ineffective.

3.2. Canvas Platform

It is a learning management system that allows individualizing the interface as specified by an institution or users, characterized not only by its pedagogical flexibility in its organic unification of applications, but also by its low risk of error and speed of execution of its functions [3].

Canvas is a platform with different courses, fast updates, access to various educational extensions that benefits both instructors and students and above all provides the ability to manage 5 types of users: students, instructor, designer, observer and administrator.

3.3. Canvas Platform Dimensions

- Announcements: These are indispensable elements for a proper interaction of the virtual world and, considering that each element is oriented to a virtual interface, it is necessary to create different communication environments where each new segment is related. Accessing the notices section facilitates the creation of an express informative space, where visible data on a specific topic can be placed. Its use is directed to important, punctual and specific data, which reinforces the idea of being a special place in a virtual platform [11].
- Tasks: They are based on learning reinforcement, thus taking the denomination "assignments", being considered as the most optimal way to develop skills, since students are expected to use their knowledge and skills to reinforce the acquired knowledge through the formulation of an answer. Finally, it should not be forgotten that, although the use of tools of this type is important to encourage deep, critical and genuine study, it is important to remember that the knowledge provided must create a conflict where students are stimulated to investigate and reflect [12].
- Debate Forums: They are a communication space constituted by small dialogue spaces where texts with potential thematic detail are presented, allowing people to contribute, explain to others and disagree asynchronously, allowing people's collaborations and responses to persist over time and to be accessed by others [13].

3.4. Learning Process

It is a systematic process where existing knowledge can be reinterpreted in such a way that it becomes one's own, the main purpose being to acquire new knowledge, skills, aptitudes, etc. that would forge a change in behavior [14]. In this way, it is established that this process is complex and personal, being an individualized task, in addition, it is necessary to have variety in methods, techniques and tools that promote appropriate learning in each condition and circumstance with the aim of inducing in students the predisposition for continuous learning.

3.5. Learning Stages

According to [15], it was mentioned that learning encompasses not only knowing, but the continuous empowerment of knowledge based on a new experience in contact with another reality, thus the learning process has four stages:

- First stage – unconscious incompetence: unconscious incompetence: This is the state in which one does not know about a given subject, nor is one aware that one does not know.
- Second stage - conscious incompetence: It is the state in which one does not know something, but is aware of it, based on this they devote time and resource to expand the already existing information.
- Third stage - consistent competence: In this state one performs the skill after it has been learned but is not yet able to perform something else at the same time.
- Fourth stage - conscious competence: This is the state in which the activity has been practiced so much that it has already been internalized becoming a habit, finalizing the learning with the integration of a new experience.

3.6. Learning Process Dimensions

- Reading Comprehension: A process of a certain degree of complexity that requires habitual and repetitive continuity. Observation and habit promote autonomous, continuous and analytical education in relation to processes such as learning, investigating, evaluating, choosing, inferring and suggesting [16].
- Writing composition ability: Writing marks the context in which comprehension progresses and at the same time emerges as a creative means of understanding. The subject is sufficiently achieved in its high horizon by improving pedagogy, students are accustomed to learn and understand and build some understanding. From this they conclude that writing is a means to achieve this goal [17].
- Argumentation ability: it is a recurring part that involves expressing an opinion and convincing others of the validity of a stance; it is based on the logic of faith. In addition, it is known that the student needs to link concepts and ideas, this is how the student reflects and reaches conclusions that are formulated orally or in writing [18].

4. Methodology

The study had a quantitative approach because a delimited and concrete study problem is posed, the literature review is used to develop a theoretical framework and subsequently derive the hypotheses that are then tested to be approved or rejected [19]. The design is correlational (Figure 1), which according to [20], is a procedure used to collect information independently and jointly, with the aim of recognizing the features - relationship of the variables under study.

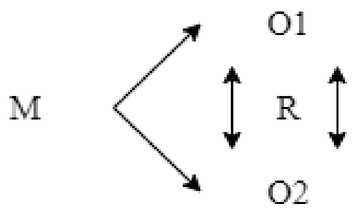

Figure 1. Correlational design

Where M: is the number of teachers who participated in the study; O1: is the data collected on the use of the Canvas platform (UPC); O2: is the data collected on the student learning process (PAE) and R: is correlation between UPC and PAE.

4.1. Population (Participants)

According to [21] the population is described as an identifiable, delimited and available set, which will be used as the basis for choosing a sample that meets certain pre-established criteria.

According to the professor schedule reports for the second semester of 2023, the population of this research was 1886 teachers, distributed in 1359 for the Trujillo branch and 527 for the Piura branch, in all the Programs of Study offered by this University, and by applying a first inclusion/exclusion criterion, which consisted of only working with teachers belonging to the Faculty of Economic Sciences of the Trujillo branch, a number of 65 teachers was obtained. Subsequently, a second inclusion/exclusion criterion was applied, which consisted of selecting those who teach only in the study programs of Administration, Accounting and Economics and International Business, leaving a total of 52 teachers who participated in this study.

4.2. Techniques and Instruments

The survey was used as the data collection technique and 2 questionnaires were used as instruments to measure both the Use of the Canvas platform (UPC), as well as the student learning process (PAE); furthermore, it should be noted that these were adapted from the research conducted by [6] in 2021.

The UPC questionnaire contains 27 items with a 5-point Likert scale (strongly disagree = 1 to strongly agree = 5). For the identification of the scores obtained in the application of this questionnaire, a qualitative equivalence assessment (Table 1) was used for UPC and the dimensions: Announcements (A: item 1 - 9), Tasks (T: item 10 - 18) and Discussion Forums (FD: item 19 - 27). It should be noted that the research by [8], allowed structuring the form of presentation of the ratings shown in Table 1 and Table 2.

Table 1. Qualitative equivalences of UPC and dimensions

N°	**Variable / Dimension**		**Assessment**		
	Acronym	***Denomination***	***Minimal use***	***Moderate use***	***Ample use***
1	UPC	Canvas platform use	27-63	64-100	101-135
2	A T FD	Announcement Assignment Debate forums	9-21	22-34	35-45

The PAE questionnaire contains 27 items with a 5-point Likert scale: (Strongly disagree = 1 to strongly agree = 5). For the identification of the scores obtained in the application of the questionnaire, a scale of qualitative equivalences (Table 2) was used for PAE and its dimensions: reading comprehension (CL: item 1 - 9), writing ability (CR: item 10 - 18) and argumentation ability (CA: item 19 - 27). The UPC and PAE questionnaires are available for download at: [26].

Table 2. Qualitative equivalences of PAE and its dimensions

N°	Variable / Dimension		Assessment			
	Acronym	*Denomination*	*Deficient*	*Low*	*Medium*	*High*
1	PAE	Student learning process	27-54	55-82	83-110	111-135
2	CL CR CA	Reading comprehension Writing capacity Argumentation capacity	9-18	19-28	19-38	39-45

4.3. Procedure and Data Analysis

The application of the 52 surveys for UPC and PAE was carried out in person during the month of October 2023 to the professors of the Academic Programs of Business Management, Economics and International Business of the Faculty of Economics, where provided was theaccess to the class schedules of each one of them and the visits were planned, with the previous authorization of the Faculty Directors of each of the Academic Programs; subsequently, the tabulation and codification of each data collected was carried out, generating a database in MS Excel, which was used to carry out a descriptive analysis.

It is important to note that each survey was scanned, and in order to have a database that can be audited at any time, it is hosted at [24].

For the inferential analysis, where normality tests were performed on the data collected and the research hypotheses were tested, the free software Jamovi 2.4.11 [25] used.

5. Results

This section presents the main findings derived from the data collected through the applied survey. The results are structured in three parts: a descriptive analysis of the demographic characteristics of participating subjects, a descriptive analysis of the key study variables Canvas Platform Use (UPC) and Student Learning Process (PAE) and an inferential analysis that examines the relationships between these variables and their dimensions. Each subsection provides detailed tables and interpretations to support the research objectives.

5.1. Descriptive Analysis by Demographic Variables

In this section described will be the data collected from the professors of each academic program assigned to the School of Economics of a private university in Trujillo, distributing them by demographic variables such as: program of study, highest degree obtained, Journey type and age range.

Table 3. Frequencies per academic program

N°	Academic Program	#	%
1	Business management	29	55.8
2	Accounting	15	28.8
3	Economics and International Business	8	15.4

Table 3 shows that of the 52 professors who participated in this research, 55.8% were in business management, 28.8% in accounting and 15.4% in economics and international business.

Table 4. Frequencies per highest degree obtained

N°	Academic Program	Degree	#	%
1	Business management	Master	14	26.9
		Doctor ate	15	28.8
2	Accounting	Master	12	23.1
		Doctor ate	3	5.8
3	Economics and International Business	Master	6	11.5
		Doctor ate	2	3.8

Table 4 shows the highest degree obtained by the professors in the academic programs assigned to the School of Economics, where Administration has 28.8% of doctorates and 26.9% of teachers; Accounting has 5.8% of doctorates and 23.1% of teachers; and finally, Economics and International Business has 3.8% of doctorates and 11.5% of teachers.

Table 5. Frequencies per journey type

N°	Academic Program	Journey Type	#	%
1	Business management	Partial	19	36.5
		Complete	10	19.2
2	Accounting	Partial	11	21.2
		Complete	4	7.7
3	Economics and International Business	Partial	4	7.7
		Complete	4	7.7

Table 5 shows the frequency by Journey Type of the professors who participated in this research, where Business Management has 36.5% for part-time and 19.2% for full-time; Accounting has 21.2% for part-time and 7.7% for full-time; finally, Economics and International Business has 7.7% for part-time and the same percentage for full-time.

Table 6. Frequencies per journey type

N°	Academic Program	Age	#	%
1	Business management	25-50	13	25.0
		51-60	5	9.6
		61 or more	11	21.2
2	Accounting	25-50	5	9.6
		51-60	9	17.3
		61 or more	1	1.9
3	Economics and International Business	25-50	4	7.7
		51-60	3	5.8
		61 or more	1	1.9

Table 6 shows that in Management the most predominant professors age range was between 25-50 years (25.0%); in Accounting the most predominant age range was between 51-60 years (17.3%); finally, Economics and International Business the most predominant age range was between 25-50 years (7.7%).

Table 7. Frequencies by professor gender

N°	Academic Program	Gender	#	%
1	Business management	Male	23	44.2
		Female	6	11.5
2	Accounting	Male	12	23.1
		Female	3	5.8
3	Economics and International Business	Male	7	13.5
		Female	1	1.9

Table 7 shows that the distribution of the professors according to gender, in Administration, 44.2% are male and 11.5% are female; in accounting, 23.1% are male and 5.8% are female; finally, in economics and international business, 13.5% are male and 1.9% are female.

5.2. Descriptive Analysis of UPC and PAE

In this section, the descriptive analysis of the UPC and PAE variables (as well as their dimensions) was carried out, where the qualitative valuations of UPC were identified, extracted from the research of [22] in 2023 and for PAE extracted from [6] in 2021. The ranges of each qualitative assessment can be consulted in Tables 1 and 2 of this manuscript.

Table 8. Use frequencies of the Canvas platform (UPC)

N°	Assessment	#	%
1	Moderate use	11	21.2
2	Ample use	41	78.8

Table 8 shows that the use of the Canvas platform by the professors of the Faculty of Economics - Trujillo was rated as Moderate Use (21.2%) and with Ample Use (78.8%). This concludes that the professors have an Ample Use of this platform.

Table 9. Use Frequencies of canvas platform per academic program

N°	Academic Program	UPC	#	%
1	Business management	Moderate use	8	15.4
		Ample Use	21	40.4
2	Accounting	Moderate use	2	3.8
		Ample Use	13	25.0
3	Economics and International Business	Moderate use	1	1.9
		Ample Use	7	13.5

Table 9 shows the assessment of the use of the Canvas platform by the professors of each academic program assigned to the School of Economics, where Business Management, Accounting and Economics and International Business have a wide use of this platform with 40.4%, 25.0% and 13.5%, respectively.

Table 10. Frequencies of UPC dimensions

N°	Dimensions	Minimum use (%)	Moderate use (%)	Ample use (%)
1	Announcements	3.8	60.8	65.4
2	Assignments	0	9.6	90.4
3	Debate Forums	7.7	34.6	57.7

Table 10 shows the valuation on the UPC Announcements dimension, where the Minimum Use obtained 3.8%, followed by a Moderate Use with 30.8% and, finally, a Wide Use with 65.4%. Also, the Tasks dimension had the ratings of Minimum use with 0%, Moderate use with 9.6% and Wide use with 90.4%. Finally, in the Discussion Forums dimension, Minimum use was 7.7%, followed by Moderate use with 34.6% and Ample use with 57.7%. It can be concluded that the professors of this faculty have an Ample use of the Announcements, Assignments and Discussion Forums in the Canvas Platform.

Table 11. Frequencies of the Student learning process (PAE)

N°	Assessment	#	%
1	Deficient	1	1.9
2	Low	12	23.1
3	Medium	27	51.9
4	High	12	23.1

In Table 11 it is possible to identify that the perspective of the student learning process by the professors was valued as Deficient (1.9%), Low (23.1%), Medium (51.9%) and High (23.1%). Concluding that PAE is Medium.

Table 12. Frequencies of the student learning process per academic program

N°	Academic Program	PAE	#	%
1	Business management	Deficient	0	0.0
		Low	8	15.4
		Medium	14	26.9
		High	7	13.5
2	Accounting	Deficient	1	1.9
		Low	2	3.8
		Medium	8	15.4
		High	4	7.7
3	Economics and International Business	Deficient	0	0.0
		Low	2	3.8
		Medium	5	9.6
		High	1	1.9

Table 12 shows that the professors of Business Management, Accounting and Economics and International Business rated the student learning process as Average, with 26.9%, 15.4% and 9.6%, respectively. Another point to mention is that this process was not rated as Deficient in Administration and Economics and International Business.

Table 13. Frequencies of PAE dimensions

N°	Dimension	Deficient	Low	Medium	High
1	Reading Comprehension	1.9	23.1	48.1	26.9
2	Writing capacity	3.8	38.5	38.5	19.2
3	Argumentation capacity	1.9	17.3	48.1	32.7

Table 13 shows that the Reading comprehension dimension of the PAE was rated Deficient with 1.9%, Low with 23.1%, Medium with 48.1% and High with 26.9%. The Writing Capacity dimension is Deficient with 3.8%, Low with 38.5%, Medium with 38.5% and High with 19.2%.

The Argumentation Capacity dimension is Deficient with 1.9%, Low with 17.3%, Medium with 48.1% and High with 32.7%.

In conclusion, the professors of this faculty rate reading comprehension, writing skills and argumentation of the student learning process as Medium.

5.3. Inferential Analysis

The inferential analysis was divided into 2 parts: 1). Normality test, where it was identified whether the data collected for the UPC and PAE variables are normally distributed or non-normally distributed and, 2). Hypothesis test, where the relationship or non-relationship of UPC, PAE, as well as the dimensions of each of these was determined. An α: 0.05 and the following decision criteria were defined to test the hypotheses:

- If p-value ≥ 0.05, H_0 would be accepted H1 would be rejected.
- If p-value < 0.05, H_0 If p-value and H1 would be accepted.

5.3.1. Normality Test

- *H_1: The data are not normally distributed (p-value < 0.05).*
- *H_0: The data are normally distributed (p-value ≥ 0.05).*

Table 14. Normality test of UPC and PAE data

N°	Variable	Test	Statistics	p-value
1	UPC	Kolmogorov-Smirnov	0.0843	0.853
2	PAE	Kolmogorov-Smirnov	0.1044	0.622

Since the number of participants was 52 professors (greater than 50), the Kolmogorov-Smirnov test was used (Table 14), where the p-value for UPC was 0.853 and for PAE was 0.622 (both greater than 0. 05), indicating that the data are normally distributed, therefore, a parametric statistical test should be applied, but when a graphical verification is performed through histograms, it is shown that UPC does not follow a normal distribution (Figure 2) and PAE does follow a normal distribution (Figure 3). Therefore, Spearman's Rho nonparametric statistical test was used.

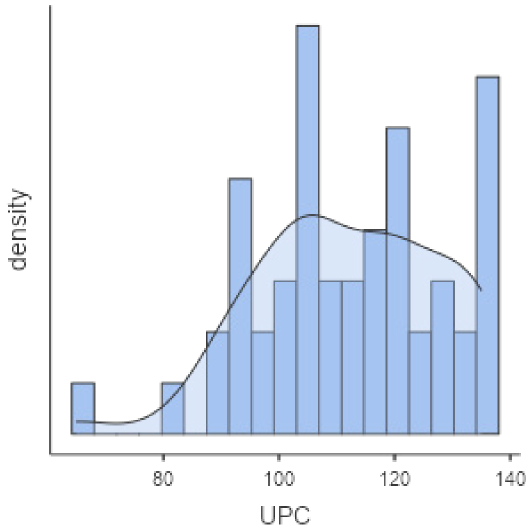

Figure 2. UPC data distribution histogram

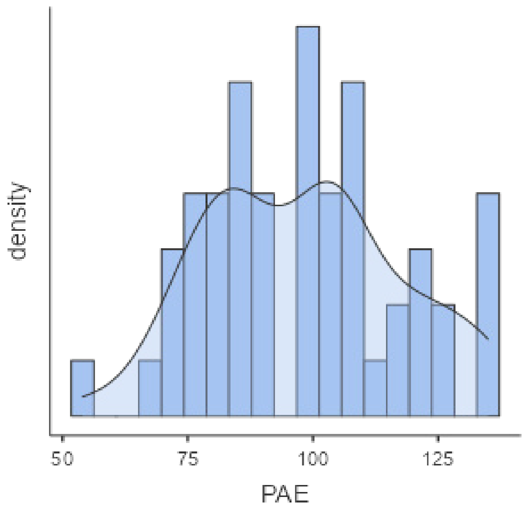

Figure 3. PAE data distribution histogram

5.3.2. Hypothesis Test

The results of the normality test (especially the graphical form) showed that Spearman's Rho should be used to test the hypotheses (Figure 4).

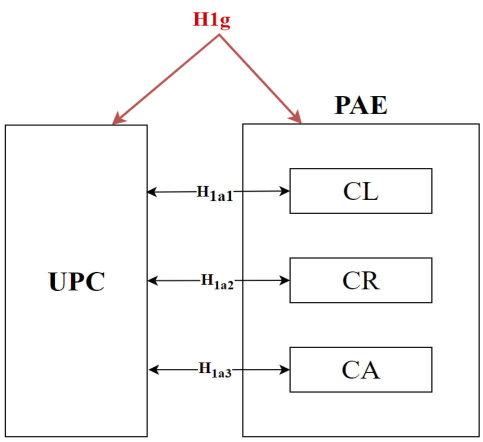

Figure 4. Research hypothesis diagram

To determine the relationship between Canvas Platform Use (UPC) and the student learning process (PAE), the hypotheses were formulated:

- *H_{1g}: There is a significant relationship between the use of the Canvas platform and the perspective on the student learning process (p-value < ∝).*
- *H_{0g}: There is no significant relationship between the use of the Canvas platform and the perspective on the student learning process (p-value ≥ ∝).*

Table 15. Relationship between UPC & PAE

Test	Coefficient	gl	p-value	N
Spearman's Rho	0.338*	50	0.014	52

** p < 0.05 (significative), ** p < 0.01 (very significative), *** p < 0.001 (highly significative)*

Table 15 shows that the p-value is 0.014 (< ∝), which enables us to affirm that there is a significant relationship between the Use of the Canvas platform (UPC) and the student learning process (PAE). But, analyzing the Spearman's Rho coefficient (0.338*), which lies between the intervals of ±0.20 and ±0.39 (Table 19), allows concluding that there is a low relationship between the study variables.

To determine the relationship between the use of the Canvas platform and the reading comprehension dimension of the student learning process, the following hypotheses were formulated:

- *H_{1a1}: There is a significant relationship between the use of the Canvas platform and the reading comprehension dimension (p-value < ∝).*
- *H_{0a1}: There is no significant relationship between the use of the Canvas platform and the reading comprehension dimension (p- value ≥ ∝).*

Table 16. Relationship between UPC & CL

Test	Coefficient	gl	p-value	N
Spearman's Rho	0.457***	50	<0.001	52

** p < 0.05 (significative), ** p < 0.01 (very significative), *** p < 0.001 (highly significative)*

Table 16 shows that the p-value is < 0.001 (< ∝), which allows us to affirm that there is a highly significant relationship between the Use of the Canvas platform (UPC) and the Reading comprehension (CL) dimension of the student learning process. However, analyzing the Spearman's Rho coefficient (0.457***), which lies between the intervals of ±0.40 and ±0.59 (Table 19), allows concluding that there is a moderate relationship between UPC and CL.

In order to determine the relationship between the use of the Canvas platform (UPC) and the writing ability (WQ) dimension of student learning, the following hypotheses were formulated:

- *H_{1a2}: There is a significant relationship between the use of the Canvas platform and the writing capacity dimension (p-value < ∝).*
- *H_{0a2}: There is no significant relationship between the use of the Canvas platform and the writing capacity dimension (p-value ≥ ∝).*

Table 17. Relationship between UPC & CR

Test	Coefficient	gl	p-value	N
Spearman's Rho	0.351*	50	0.011	52

** p < 0.05 (significative), ** p < 0.01 (very significative), *** p < 0.001 (highly significative)*

Table 17 shows that the p-value is 0.011 (< ∝), which allows us to affirm that there is a significant relationship between the Use of the Canvas platform (UPC) and the Writing Capability (CR) dimension of the student learning process. But, analyzing the Spearman's Rho coefficient (0.351*), which lies between the intervals of ±0.20 and ±0.39 (Table 19), allows concluding that there is a low relationship between UPC and CR.

To determine the relationship between the use of the Canvas platform (UPC) and the argumentation capacity (AC) dimension of student learning, the hypotheses were formulated:

- *H_{1a3}: There is a significant relationship between the use of the Canvas platform and the argumentation capacity dimension (p-value < ∝).*
- *H_{0a3}: There is no significant relationship between the use of the Canvas platform and the argumentation ability dimension (p-value ≥ ∝).*

Table 18. Relationship between UPC & CR

Test	Coefficient	gl	p-value	N
Spearman's Rho	0.351*	50	0.011	52

** p < 0.05 (significative), ** p < 0.01 (very significative), *** p < 0.001 (highly significative)*

Table 18 shows that the p-value is 0.091 (≥ ∝), which allows us to affirm that there is no relationship between the Use of the Canvas platform and the Argumentation Capacity dimension.

Table 19. Correlation degree according to Spearman's Rho

N°	Assessment	Correlation
1	± 0.80 a ± 0.99	Ver High
2	± 0.60 a ± 0.79	High
3	± 0.40 a ± 0.59	Moderate
4	± 0.20 a ± 0.39	Low
5	± 0.01 a ± 0.19	Very Low

6. Discussion

This section discusses the main findings in light of the study's initial hypotheses, prior research, and the broader educational context. The analysis centers on the correlation between the use of the Canvas platform (UPC) and the student learning process (PAE), drawing comparisons with previous studies and highlighting the nuances observed in this particular academic setting. The discussion also considers the extent of platform usage by faculty, the dimensions most influenced by Canvas tools, and the external factors that may be shaping students' academic experiences. These insights provide a deeper understanding of the limitations and potential of virtual learning platforms in supporting educational outcomes in a Peruvian university context.

When testing the hypothesis H_{1g}, it was confirmed that there is a low correlation between UPC and PAE, which differs from [6] who revealed a positive correlation between the extensive use of the Canvas interface and academic performance in Architectural Technology 1, in addition, it coincides with [22] in 2023, who found a very low association between the use of the Canvas platform and the performance of tasks in teachers.

This does not mean that they are not exempt from the existence of some relationship, which is why it can be understood that the use of this interface collaborates with the learning process but it is not the definitive reason; there may be more variables that have a significant influence, such as the performance of teachers and especially the use of learning platforms (such as Canvas) by the students themselves.

It was identified that there is ample use of the Canvas platform by faculty members, as well as its 3 dimensions: Announcements, Assignments and Discussion Forums, obtained the same assessment as well, this due to the fact that when the Covid-19 pandemic struck, many universities, such as the one in this research, had to prioritize the use of these platforms, providing training, consultancies, workshops on a constant basis, in order to continue offering a good educational service to students.

It is important to note that these results are related; moreover, these also coincide with the work of [22], who found a wide use of this platform with 57%. In addition, it should be mentioned what was done by [3] who explains that a longer time of use of the Canvas virtual platform is positively associated with an increase in both approved language skills and in students' positive perceptions of their own performance in these (although the opposite was determined in this research). Therefore, it is determined that, generally, the users of these learning platforms are valued with an Ample Use, but what remains to be assessed is the reason for this appreciation, considering the features that these have such as: versatility, user experience, presentation, training time, etc. For this reason, it is necessary to carry out applied studies such as the one conducted by [23], who with the implementation of the SISCA software significantly improved the training management in a managerial department.

Another objective was to identify the level of perspective of the student learning process, finding that this process has a medium dimension with 48.1%, because professors evaluate qualitatively the work, performance and learning of their students and, as generally occurs in countries such as Peru, this is often categorized as deficient, due to external factors such as poverty, criminality, infrastructure, among others. Therefore, it is proposed, for future research, to assess these factors associated with the student learning process, but in a quantitative way and thus have a measurable data to identify which factor should be improved and especially prioritized. In addition, the result obtained in this research is unrelated to that of [4], who indicated that students who made extensive use (86.7%) of the Canvas interface achieved positive evaluations compared to those who used the platform minimally.

Finally, to determine the relationship between the use of the Canvas platform and each of the dimensions of the perspective on the learning process, a moderate relationship was found with the reading comprehension dimension and a relationship with the other two variables. A previous study by [4] supports these findings by indicating a significant relationship. When breaking down each dimension, a moderate relationship was observed in reading comprehension, where the tools in the Canvas interface were identified as resources that contribute to students' analytical development. Likewise, relationships were found in the dimensions of writing capacity and argumentation capacity. The interface provides several tools and areas aimed at improving students' skills in these dimensions.

However, it is crucial to keep in mind that these improvements depend not only on the platform, but also on student participation and teacher proactivity. This finding is consistent with that of [22], who determined that the use of the Canvas platform was not related to any indicator of task performance of university professors, who also determined that this platform only contributes to academic activities and not necessarily to learning processes, such as the one sought to determine in this research.

7. Conclusion

This section analyzes the key findings in relation to the study objectives and existing literature. The interpretation focuses on the observed correlations, the level of Canvas platform usage, perceptions of the student learning process, and the implications of these relationships within the educational context

The study determined that there is a generally low correlation between the use of the Canvas platform (UPC) and the student learning process (PAE). While the platform supports academic activities for professors, students, and supervisors, it does not necessarily enhance the learning process itself. Despite this, an ample level of Canvas usage was identified particularly in tools such as announcements, assignments, and discussion forums which suggests that institutional efforts, such as the training provided after the COVID 19 pandemic, positively influenced the academic practices of faculty members

Notably, a moderate correlation was found only in the dimension of reading comprehension, indicating that while Canvas can facilitate certain academic tasks, its overall contribution to deeper learning outcomes is limited. Teachers perceived the student learning process as being at a medium level, reflecting not only institutional expectations but potentially broader educational and societal challenges present in the Peruvian context.

Given these findings, it is recommended that future research focus on isolating external variables such as socioeconomic conditions, infrastructure, and teacher engagement that may more directly influence the student learning process.

Quantitative studies should be conducted to identify the contextual elements that most significantly affect educational outcomes. Furthermore, incorporating student perspectives and usage patterns of platforms like Canvas could provide a more comprehensive understanding of their educational value.

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