

El rol de la plataforma Google Classroom en la gestión académica de los estudiantes

The role of the Google Classroom platform in the academic management of students

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RESUMEN: El presente artículo tiene como objetivo determinar la relación entre la Plataforma Google Classroom y la gestión académica en estudiantes del nivel de secundaria de la Institución Educativa Privada llamada “Virgen de Guadalupe de América”, ubicada en el distrito de Huarochirí en Lima, Perú durante el año 2021. Se utilizó estadística descriptiva para describir cada variable de estudio y la preferencia por parte de los estudiantes, a su vez se analizó la confiabilidad para observar la correlación entre las variables, ya que el estudio fue del tipo transversal porque se realizaron las observaciones en un momento único en el tiempo.**Palabras clave:** Plataforma google classroom; Gestión académica; Procesos pedagógicos; Gestión de enseñanza; Gestión de aprendizaje; Evaluación de aprendizajes

ABSTRACT: This article aims to determine the relationship between the Google Classroom platform and academic management among secondary school students at the “Virgen de Guadalupe de América” private educational institution—located in the Huarochirí district of Lima, Peru—during 2021. Descriptive statistics were used to characterize each study variable and student preferences; additionally, reliability was analyzed to examine the correlation between the variables, given that the study was cross-sectional in nature, with observations conducted at a single point in time.**Keywords:** Platform google classroom; Academic administration; Pedagogic processes; Teaching administration; Learning administration; Evaluation of learnings

Introduction

Education in Peru during the COVID-19 pandemic underwent many changes nationwide, as the country was not at its peak in terms of computing and technological infrastructure.

This led many private educational institutions to close and never reopen.

In this regard, (Colreavy-Donnelly *et al.*, 2022) noted that the COVID-19 pandemic triggered a global shift in teaching practices toward learning that relied on digital media across various institutions, leading to the adoption of digital technologies to support educational frameworks.

However, a question raised by (Dhurkari, 2022) concerned which platforms would be best suited for delivering high-quality virtual academic classes—a question that was answered during the course of this research.

Given the above, the main objective of the research was to determine the relationship between the variables: the Google Classroom platform and academic management among high school students at the private educational institution “Virgen de Guadalupe de América,” located in the Huarochirí district of Lima, Peru, during 2021.

The research aimed to demonstrate that a relationship existed between the Google Classroom platform and academic performance, in order to subsequently provide recommendations to the private educational institution for the ongoing maintenance of the implemented platform.

Furthermore, the study sought to answer the question: “What is the relationship between the Google Classroom platform and the academic performance of students at a private secondary school?” Based on this question, it was demonstrated that a relationship existed between the two variables by formulating the general hypothesis and specific hypotheses and testing them using inferential statistics.

During the course of the research, descriptive statistics were used to describe each study variable and student preferences; reliability was also analyzed to observe the correlation between the variables, as the study was cross-sectional in nature—meaning observations were made at a single point in time.

The study was also explanatory in that it detailed the individual measurements of the variables and reported the results; furthermore, it was correlational because it measured the degree of relationship between them.

Development

There are numerous virtual platforms available—both free and paid—that could be used by public and private institutions, such as Chamilo, Edmodo, Classroom, and Moodle, since each of them allowed students to be assigned tasks and have their grades evaluated, in addition to maintaining communication with families and providing opportunities to exercise intellectual skills. (Ramos-Vite & Macahuachi-Nuñez, 2021).

In fact, (Leiva & López, 2019) noted that there is added value in using learning environments in the educational process; therefore, it is essential to recognize each context and be prepared to adapt to the changes demanded by new modes of learning.

While it is true that the Google Classroom platform can be used in secondary-level educational institutions, it is also used in public universities. As noted by (Olaya & Contreras, 2022), there are public universities that use Google Classroom because of its ease of use, as it allows instructors to provide necessary feedback on assignments given to students.

On the other hand, (Loli *et al.*, 2018) noted that the National University of San Marcos (UNMSM) also used Google Classroom in its medical programs because of the practicality of its implementation; furthermore, (Tomalá *et al.*, 2020) stated that the Google Classroom platform fostered the development of skills, confidence, and teamwork, as it enabled the exchange of ideas and maintained respect for others within a diverse and equitable social learning environment.

For their part, (Jesús & García, 2021) noted that over the past decade, Learning Management Systems (LMS) have seen an exponential increase in their presence in higher education and secondary education, as they have enabled the creation of a virtual learning environment through the management of digital content, since these platforms are capable of generating detailed records of academic progress.

Based on the theoretical elements analyzed, the study conducted was quantitative, non-experimental—cross-sectional—explanatory and correlational, with the objective of determining the relationship between the Google Classroom platform and academic management.

As noted by Hernández & Mendoza (2018), the quantitative approach seeks to collect data to understand, quantify, and find solutions to the phenomenon under study using standard procedures accepted by scientists.

These same authors indicated that in non-experimental designs, research is conducted without the deliberate manipulation of any variables; that is, the phenomenon occurred in a natural context, which was then analyzed and processed.

On the other hand, (Hernández *et al.*, 2010) noted that cross-sectional research is conducted when data are collected at a single point in time, in a single data collection, over a single time period, with the goal of explaining the variables and examining their occurrence and effects over time.

Similarly, it was of the explanatory type, since, as noted by (Hernández *et al.*, 2014), such explanatory studies focus on identifying the causes of associations between variables.

Finally, it is considered a correlational study because it explained and characterized the dynamics among the study variables and then measured the degree of relationship between them, since “studies differ in nature: descriptive, correlational” (Hernández *et al.*, 2010, p. 78).

Participants

The population consisted of 90 students, and the sample was selected using simple random sampling, comprising 74 students from the first through fifth years of secondary school, as shown in Table 1.

Table 1.

Summary of Case Processing

		N	%
Cases	Valid	74	100.0
	Excluding	0	0
	Total	74	100.0

Source: Prepared by the author

Instruments

Data collection was conducted using the survey method, as described by (Casas *et al.*, 2003), which quickly and efficiently gathers and prepares data for measurement and allows for appropriate correlations and comparisons.

To this end, a questionnaire was used as the instrument; as noted by Hernández & Mendoza (2018), it consists of a set of questions regarding one or more measurable variables that correspond to the assumptions underlying the questions and their statements.

To measure the “Google Classroom Platform” variable, a 15-question questionnaire using a Likert scale was administered; it took 10 to 15 minutes to complete, with scores ranging from 1 to 5 for each item. The dimensions assessed were: Accessibility, Participation, Social Skills—Management, and Discussion Content—Construction.

To measure the “Academic Management” variable, a 15-question questionnaire using a Likert scale was also administered; it took 12 to 17 minutes to complete, with scores ranging from 1 to 5 for each item. The dimensions assessed were: Pedagogical Processes, Teaching Management, Learning Management, and Learning Assessment.

For both variables, the Likert scale used the following numerical range: Strongly Agree (5), Agree (4), Neither Agree Nor Disagree (3), Disagree (2), and Strongly Disagree (1).

Procedures

To collect data, we first coordinated with the principal of the private educational institution, who agreed with the study’s objective and provided the necessary support to implement the Google Classroom platform. We then administered the questionnaires to high school students after obtaining informed consent from their parents.

Next, using the information obtained, a descriptive and inferential analysis of the two study variables was conducted. Additionally, reliability was measured using Cronbach’s alpha to validate the instrument, and it was demonstrated that the data did not follow a normal distribution using the Kolmogorov- Smirnov test. Subsequently, a non- -parametric statistical test—Spearman’s Rho coefficient—was applied to demonstrate the correlation between the variables.

All of the aforementioned analyses were performed using IBM SPSS V.26 statistical software, from which tables of the results obtained were generated.

Results

Reliability Analysis of the Google Classroom Platform and Academic Management.

The reliability, as measured by Cronbach’s alpha, for the 74 students at the educational institution was 0.864, as shown in Table 2.

Table 2.*Reliability Analysis*

Cronbach's alpha	Number of Items
0.864	30

Source: Author's own work

Therefore, based on the reliability criteria outlined by Kerlinger and Lee (2002), it was demonstrated that there was strong reliability for the total of 30 items across both questionnaires, as shown in Table 3.

Table 3.*Reliability criteria (Kerlinger and Lee, 2002)*

Level of reliability	Values
High reliability	0.90 – 1.00
Strong reliability	0.76 – 0.89
Reliability exists	0.70 – 0.75
Low reliability	0.61–0.69
Not reliable	0.00 – 0.60

Note. Taken from “Behavioral Research: Research Methods in the Social Sciences” by Kerlinger and Lee (2002). McGraw Hill.

Therefore, the reliability of the instrument used for the research was demonstrated.

Sample Distribution

To test the normality of the data, the Kolmogorov–Smirnov statistical test was used, as shown in Table 4.

Table 4.*Kolmogorov–Smirnov Test of Normality on a Sample*

Kolmogorov–Smirnov			
	Statistic	gl	Mr.
Google	0.176	7	0.000

Classroom		4	
Platform			
Academic	0.151	7	0.000
Management		4	

Source: Author's own calculations

The significance values obtained from the normality test were 0.0000 and 0.000. These results indicated that there was no asymptotic significance (two-tailed test) greater than 0.05 for either variable, confirming the absence of normality; that is, a nonparametric statistical test had to be considered; therefore, Spearman's correlation coefficient was selected to perform the inferential analysis.

Furthermore, to verify the results obtained from the written questionnaires, they were described using frequency tables 5 through 8 as part of the descriptive analysis.

Table 5.

Absolute frequency of the variable: Google Classroom platform

Google Classroom Platform		
	Frequency	Percentage
Disagree	1	1.4
Neither agree nor disagree	4	5.4
Agree	44	59.5
Strongly agree	25	33.8
Total	74	100.0

Source: Author's own work

Table 5 showed that 59.5% of students responded "Agree," while 33.8% responded "Strongly Agree"; therefore, the Google Classroom platform variable received a favorable response in the study.

The results also showed that 41.9% of the students responded “Agree,” while 45.9% responded “Strongly Agree”; therefore, the academic management variable was favorably received.

Regarding the dimensions of the “academic management” variable, the analysis was conducted based on the following: pedagogical processes, teaching management, learning management, and student assessment. Students were evaluated using a written questionnaire with a Likert scale.

This revealed that 44.6% of the students responded “Agree,” while 24.3% responded “Strongly Agree”; therefore, the “pedagogical processes” dimension received a favorable response.

Regarding the dimensions of the academic management variable, the analysis was conducted based on the following: pedagogical processes, teaching management, learning management, and student assessment. Students were evaluated using a written questionnaire with a Likert scale, and the results are shown below.

Table 7.

Absolute frequency of the dimension: Pedagogical processes

Pedagogical processes		
	Frequency	Percentage
Strongly disagree	3	4.1
Disagree	3	4.1
Neither agree nor disagree	17	23.0
Agree	33	44.6
Strongly agree	18	24.3
Total	74	100.0

Source: Author’s own work

Table 7 showed that 44.6% of the students responded “Agree,” while 24.3% responded “Strongly Agree”; therefore, the pedagogical processes dimension received a favorable response.

Table 8.

Absolute frequency of the dimension: Teaching Management

Teaching Management	
Frequency	Percentage

Strongly disagree	2	2.7
Disagree	2	2.7
Neither agree nor disagree	14	18.9
Agree	30	40.5
I completely agree	26	35.1
Total	74	100.0

Source: Author's own work

Table 8 showed that 40.5% of students responded “Agree,” while 35.1% responded “Strongly Agree”; therefore, the teaching management dimension received a favorable response.

On the other hand, 40.5% of the students responded “Agree,” while 51.4% responded “Strongly Agree”; therefore, the “learning management” dimension received a favorable response.

Similarly, it was shown that 35.1% of the students responded “Agree,”

while 43.2% responded “Strongly Agree”; therefore, the student assessment dimension received a favorable response.

Correlation of the variables

In the general hypothesis test, a Spearman's correlation coefficient of 0.588 was obtained, representing a considerable positive correlation, where the probability of occurrence (sig.) Asymptotic (Two-tailed) = 0.000 was less than 0.05. Consequently, the alternative hypothesis H_a was accepted and H_0 was rejected, in contrast to the findings reported by (Lozano, 2025) in their scientific article titled “Measuring the Impact of the Acsoft Web Platform on Academic Management at the Pérez y Aldana Technical Educational Institution, Main Campus in Purificación – Tolima,” where they measured the impact of the ACSOFT web platform on 60 respondents, finding that 53.3% indicated they agreed with their overall satisfaction with the platform, 46.7% mentioned the ease of navigation and use of the platform, and 53.3% indicated they were satisfied with the technical support and information received. In other words, it was demonstrated that the web platform used had an impact on student learning; therefore, the values obtained in Table 5 at the inferential level through the correlation of the research variables support the findings reported by these authors.

Correlation between the Google Classroom platform and pedagogical processes

In the specific hypothesis test H1, a Spearman's coefficient of 0.431 was obtained, representing a moderate positive correlation, where the probability of occurrence (sig.) Asymptotic (Two-tailed) = 0.000, which was less than 0.05; consequently, the alternative hypothesis H1 was accepted and H0 was rejected. This is consistent with (Macías, 2025) in his scientific article "Beyond Technology: Academic Management and Early Warning Systems for Student Retention in Virtual Higher Education," whose results showed that the usability of digital platforms had a 73% impact, compared to the academic advisor, whose impact was 81%, as well as on academic performance. Therefore, at the descriptive level, it was evident that academic management and early warning systems facilitated the development of pedagogical processes, furthermore, these findings have been corroborated by the research's correlation analysis; additionally, Table 7 of percentage frequencies shows pass rates similar to those found in this author's study.

Correlation between the Google Classroom platform and teaching management

In the specific hypothesis test H2, a Spearman's coefficient of 0.539 was obtained, representing a considerable positive correlation. The probability of occurrence analysis (sig.) was performed. Asymptotic (Two-tailed) = 0.000, which is less than 0.05. Consequently, the alternative hypothesis H2 was accepted and H0 was rejected. This is consistent with the findings of Navarro *et al.* (2024) in their scientific article "Web Platform to Comply with Colombian Education System Regulations in the Academic Administration of Official Institutions in Aguachica – Cesar," in which they noted that web platforms enable compliance with regulations and guidelines of educational systems—as is the case with Colombian institutions—since they facilitate academic administration and teaching management and support administrative and educational processes. Therefore, it can be concluded that the inferential results regarding the correlation in this study confirm the authors' findings.

Correlation Between the Google Classroom Platform and Learning Management

In the test of specific hypothesis H3, a Spearman's correlation coefficient of 0.345 was obtained, representing a moderate positive correlation. The probability of occurrence analysis (asymptotic significance, two-tailed) yielded a value of 0.003, which was less than 0.05; consequently, the alternative hypothesis H3 was accepted and H0 was rejected. This contrasts with (Hernández, 2024) in his scientific article "Management of a Virtual Educational Platform with Artificial Intelligence and Its Functional Suitability in the Learning Process," whose statistical results showed that, out of 51 respondents, the majority indicated that virtual educational platforms

Are relevant and beneficial, as 37 respondents stated they “strongly agreed” that virtual platforms are necessary to improve learning management. In contrast, the values obtained at the inferential level in the study’s correlation analysis confirm this author’s findings; furthermore, the results obtained are very close to the percentage frequencies regarding acceptance of the Google Classroom platform.

Correlation between the Google Classroom platform and student assessment

In the specific hypothesis test H4, a Spearman’s correlation coefficient of 0.658 was obtained, representing a considerable positive correlation.

An analysis of the probability of occurrence was conducted, yielding an asymptotic (two-tailed) p-value of 0.000, which was less than 0.05; consequently, the alternative hypothesis H4 was accepted and H0 was rejected.

In comparison with the findings presented by (Rios-Lin *et al.*, 2025) in their scientific article “Evaluation of the Student’s Role in a Virtual Education Program on the Educational Platform”, the results showed that of the 94 students surveyed, 72% indicated they “strongly agreed” regarding the ease of navigation and organization of content; furthermore, 68% mentioned that educational platforms were useful for carrying out academic activities. Therefore, the values obtained are similar to those obtained at the descriptive level, and the inferential results confirming a relationship between educational platforms and learning were also validated; thus, Google Classroom is relevant for student assessment.

Conclusions

A considerable positive correlation of 0.588 was determined between the Google Classroom platform and the academic performance of students at the private secondary school.

A moderate positive correlation of 0.431 was found between the Google Classroom platform and pedagogical processes.

A considerable positive correlation of 0.539 was found between the Google Classroom platform and teaching management.

A moderate positive correlation of 0.345 was found between the Google Classroom platform and learning management.

A considerable positive correlation of 0.658 was found between the Google Classroom platform and student assessment.

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