

Teamwork and academic performance of Accounting School students at the National University of Cañete, 2022

[Trabajo en equipo y rendimiento académico de los estudiantes en la Escuela Profesional de Contabilidad de la Universidad Nacional de Cañete, 2022]

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Resumen

El estudio tuvo como objetivo determinar si existe correlación significativa entre el trabajo en equipo y el rendimiento académico. Por este motivo, se realizó la investigación sobre el trabajo en equipo para mejorar el rendimiento académico en la educación superior. El tipo de investigación es aplicada, siendo el nivel de investigación descriptiva y correlacional. La investigación fue transversal; puesto que se realizó una sola vez la encuesta mediante la técnica del cuestionario la Escala de Likert y notas. La muestra es aleatoria simple 41 estudiantes matriculados en el semestre 2022-1, que constituyen el estudio de la Escuela Profesional de Contabilidad-UNDC. Se demuestra que del total de los encuestados (predomina el nivel medio, es decir, representada por el 39,0% (16) percibe que la aplicación del trabajo en equipo ocupa, el 61,0% (25) en el nivel más alto. Más del 50% de los encuestados están por encima de 2.61, es decir, tienen una actitud favorable. En promedio de los encuestados se ubican en 2,61 (favorable). Asimismo, se desvían con respecto al promedio 0,494 unidades de la escala. Por último, se concluye que sí existe una adecuada relación significativa entre las variables, debido a una correlación moderada de 0,738, es decir es favorable.

Palabras clave: Trabajo en equipo, rendimiento académico, comunicación, identidad, actitud.

Abstract

The objective of the study was to determine if there is a significant correlation between teamwork and academic performance. For this reason, research on teamwork to improve academic performance in higher education was carried out. The type of research is applied, being the level of descriptive and correlational research. The research was cross-sectional; since the survey was carried out only once using the questionnaire technique, the Likert Scale and notes. The sample is simple random 41 students enrolled in the 2022-1 semester, which constitute the study of the Professional School of Accounting-UNDC. It is shown that of the total number of respondents (the medium level predominates, that is, represented by 39.0% (16) perceives that the application of teamwork occupies 61.0% (25) at the highest level. More than 50% of those surveyed are above 2.61, that is, they have a favorable attitude. The average of those surveyed is located at 2.61 (favorable). In addition, they deviate from the average by 0.494 units on the scale. Finally, it is concluded that there is an adequate significant relationship between the variables, due to a moderate correlation of 0.738, that is, it is favorable.

Keywords: Teamwork, academic performance, communication, identity, attitude.

I. Introduction

The present study was carried out considering the importance of responding to the possible deficiencies that the students of the Faculty of Business Sciences of the Professional School of Accounting of the UNDC may present, in terms of teamwork and academic performance, since it has been observed that a high percentage of students fail to achieve the expected skills and abilities, obtaining unsatisfactory results, presenting cases of disapproval, loss of interest, abandonment of the course, which has had an impact on learning problems; presenting difficulties of low self-esteem, anxiety, insecurity, lack of interest in learning and better quality of life. Currently, competitiveness is increasing, individualism is doomed to failure. But simple team meetings are not enough either. You have to learn to work as a team. For this, it is crucial to know your own aptitude and position and that of the rest of the team members, take into account your own dynamics, combine virtuality with face-to-face and adopt a sportsmanship and continuous learning spirit. (Cardona & Wilkinson, 2006, p.11).

It should be noted that the teamwork competence is a living, multidimensional competition, with multiple categorizations given its complexity (due to its efficiency) and that multiple models of yesteryear occur that have been tried to analyze and compare to discern a definition and a proposal of categorization. (Torrelles et al. 2011, p.13). According to Aparicio, J. et al., (2021) that the evaluation in the cooperative activity is fundamental, since it must allow that after each session launched, the participants can examine and verbalize the behaviors that have occurred. During the process, the teacher must seek solutions to advance, fostering and adopting team attitudes. Cooperation behavior should help to overcome conflict situations and ensure the development of one's own action through more prosocial skills. (p.9).

Since teamwork is a generic competence considered important in the training of future professionals, the evidence would suggest that using Experience-Based Learning can be effective to achieve this purpose. When comparing this variable with the performance obtained, the students achieved better performance in group activities in accordance with what is indicated in the literature. However, there are few studies that establish whether teamwork is responsible for it. (Rivera et al., 2017, p.7). So that the formation of work teams that are more efficient both in the achievement of different tasks and in learning. In order to have more complete information when forming the work teams, in addition to knowing the teaching and learning processes of the students, it will be convenient to know the Thinking Styles (Lerís et. al., 2017, pp.15 -16).

It is considered necessary to review the role of the teacher as a facilitator of the cooperative processes, making sure that, beyond the results obtained by the teams, the technical conditioning factors are addressed, analyzed, acquired and developed in the action itself achieve effective collaboration. The teaching activity must start from cooperative dynamics that allow awareness of the necessary aspects to learn to work in a team: shared leadership, mutual monitoring of the task, support behavior, adaptability and orientation as a team. , along with constant interactive communication (Aparicio et al., 2021, pp. 8-9).

On the other hand, the research on academic performance through the specific analysis of the social ability and self-control variables, with which it opens a space for reflection on evaluation and curricular design for educational institutions, as well as an opportunity to carry out carry out studies in the area of construction of technique and instruments for its prediction. And integrated understanding in an inductive and deductive way through a holistic perspective (Navarro, 2003, p.14).

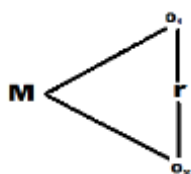
For this reason, research on teamwork to improve academic performance in higher education was carried out. The objective was to determine if there is a correlation between teamwork and academic performance. It is also necessary to mention the purpose of this research is to promote teamwork in classes to improve the academic performance of university students.

II. Materials and Methods

Type of research

The type of research is applied (since existing theoretical approaches have been applied), and the level of research is descriptive and correlational (since the behavior of the variables analyzed has been described in order to later correlate them). The research was cross-sectional; since it was carried out only once and applied the mixed method for interpretation and analysis.

Respond to the following scheme:



Where:

M : sample

X : Teamwork

Y : Academic performance

r : Correlation

Population

In the study Hernández et al. (2014) indicated about this section "that it refers to the group of concordant cases with a row of precisions, and that are accommodated in relation to their contents, place, characteristics and time" (p.174). It consists of 350 students enrolled in the 2022-1 semester, which constitute the study population of the Business Sciences Faculty of the Accounting Professional School of at the UNDC.

Sample

To determine the sample that reflects a high degree of reliability and a low percentage of error, the following statistical formula was used:

Formula

$$n = \frac{\left[\frac{z - \alpha/2}{d} \right]^2 \cdot p(1-p)}{1 + 1/N \cdot \left[\frac{z - \alpha/2}{d} \right]^2 \cdot p(1-p) - 1/N}$$

Where:

n = sample size

N = population size, total number of students = 350 (enrolled, 2022-1-UNDC)

Z = value corresponding to the Gaussian distribution = 1.96 for $\alpha = 0.05$

p = expected prevalence of the parameter to be evaluated. As in this case it is unknown, applying the most unfavorable option ($p = 0.5$), which makes the sample size larger.

q = 1-p ($p = 50\%$, $q = 50\%$)

d = precision error (in this case we want 14.3%)

α = significance level of 0.05

$$n = \frac{\left[\frac{1.96 - 0.05/2}{0.145} \right]^2 \cdot 0.5(1-0.5)}{1 + 1/350 \cdot \left[\frac{1.96 - 0.05/2}{0.145} \right]^2 \cdot 0.5(1-0.5) - 1/350}$$

The number of students is:

$$n = 45.7751602 / 1.12792903 = 40.5833691 = 41$$

Data Collection Techniques

For data collection, survey techniques were applied, a Likert Scale questionnaire and student notes for teamwork to improve the academic performance of students in higher education, 2022.

Statistical analysis

For data analysis, descriptive and inferential statistics were used for the hypothesis test: Pearson's Correlation; then they were processed. Subsequently, the frequencies and percentages were tabulated and found and presented in the corresponding tables and graphs. Statistical analyzes were performed with the SPSS (Statistical Package for Social Sciences) computer program in version 25 in Spanish; which is an instrument developed by the University of Chicago, which is the most widespread and used among researchers in Latin America. For this, the Excel program was used, which allowed the results to be presented in a clear and objective manner.

Procedures

The evaluations were carried out as follows:

- 41 students were taken as a representative sample of the Faculty of Business Sciences of the UNDC Professional School of Accounting.
- A 20-question Likert Scale survey was prepared with five distractors.
- The investigation was carried out from 01 to 09-30-2022, where the survey was applied and the notes of the course taught were considered to contrast.
- 23 women and 18 men participated with an average age of 20 to 23 years corresponding to the first cycles.
- Obtained the data through the survey and notes, they were processed through basic and inferential statistics and tables were prepared for their interpretation and analysis.

- Finally, the Pearson Correlation hypothesis test was carried out to measure the relationship of both study variables.

III. Results

The frequency analysis of the scores achieved after applying the instruments in students was tabulated and then a scale was obtained to be able to interpret the charts and graphs as shown in Table 1.

Table 1. Levels of the teamwork application

			Frequency	Percentage	valid percentage	Accumulated percentage
Valid	Low	<= 16	0	0,0	0,0	0,0
	Medium	17 -34	16	39,0	39,0	39,0
	High	35 - 50	25	61,0	61,0	100,0
	Total		41	100,0	100,0	

Table 1 shows that of the total number of respondents (41 students) the medium level predominates, that is, represented by 39.0% (16) perceives that the application of teamwork occupies 61.0% (25) at the highest level. Corroborating with university students, the teamwork competence encompasses the person in all its dimensions, such as being autonomous and social, and places students in a truly enriching training process. (Dieste, 2019, p.14). In addition, with the development of teamwork competence from the design of tools that allow students to define and guide their work, through tools that allow evaluating both the performance of their teamwork and their own individual performance provide students with guidelines for improvement, it is to be expected that they will perform better in subsequent experiences and that they will thus achieve a progressive acquisition of competence. (Jaca et al., 2016, p.9).

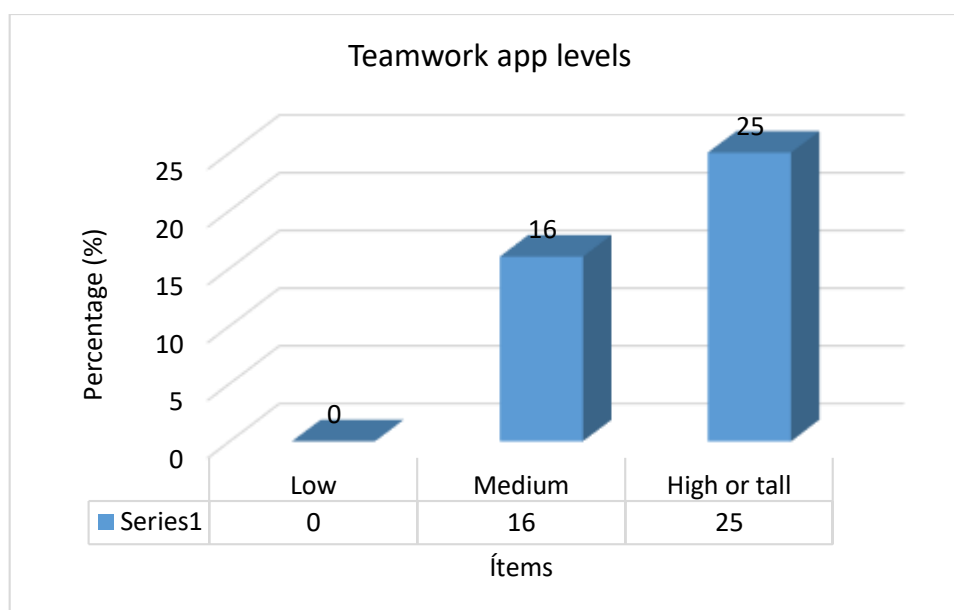


Figure 1. Teamwork level

Measures of central tendency of the application in teamwork and academic performance according to the students.

Table 2. Levels of the teamwork

N°	Valid	41
Average		2,61
Median		2,61 ^a
Moda		3
Standard deviation		0,494
Minimum		1
Maximum		3

The attitude of the respondents towards the application of teamwork is favorable. Being the most repeated value 3 (favorable). More than 50% of those surveyed are above 2.61, that is, they have a favorable attitude. On average the subjects are located at 2.61 (favorable). Likewise, 0.494 scale units deviate from the average. A minimum score of 1 and a maximum of 3 was observed. According to the data obtained in the measures of central tendency, there is a favorable attitude regarding the application of teamwork according to the students surveyed. The present study shows that university students in terms of teamwork competence stand out in involvement with the objectives, tasks and achievements of the team. In addition, they feel integrated, relevant and accepted by the rest of the team. Most of the students fulfill their obligations within the team and this is how they are perceived by their peers. And when faced with a problem, university students are capable of detecting it, anticipating it and finding a consensus solution. (Paris et al., 2016, p.10).

Analysis of the independent and dependent variables

Table 3. Level of teamwork and academic performance

	Interval	teamwork		Academic performance	
		fi	fi%	fi	fi%
Deficient	00 - 05	0	0.00	0	0.00
Regular	06 - 10	2	4,9	6	14,6
Good	11 - 12	10	24,4	15	36,6
Very good	13 - 16	18	43,9	15	36,6
Outstanding	17 - 20	11	26,8	5	12,2
Total		41	100,0	41	100,0

Based on Table 3, on the level of the variables teamwork and academic performance, the following data is available: 43.9% (18) teamwork; 36.6% (15) for academic performance, students have obtained grades between 13 and 16 points (both), this indicates that they are within the Very Good assessment; 26.8% (11) for teamwork; 12.2%(5) for academic performance, students have obtained grades between 17 and 20 points (both), this indicates that they are within the Outstanding rating; 4.9% (2) for teamwork; 14.6%(6) for academic performance, students have obtained grades between 06 and 10 points (both), this indicates that they are within the regular assessment; because the students are somehow informed about the issues related to "teamwork" before starting the treatment. Likewise, despite the complexity perceived by the university students in the teamwork carried out during the "good practice", the satisfaction and recognition

of learning, coexistence and cooperation in processes as important as organization, reaching agreements, Conflict resolution, responsibility, the assumption of consequences and personal maturation were, without a doubt, highly formative issues for the students, and indeed, essential in the formation of a good professional during the university period. (Dieste, 2019, p.14).

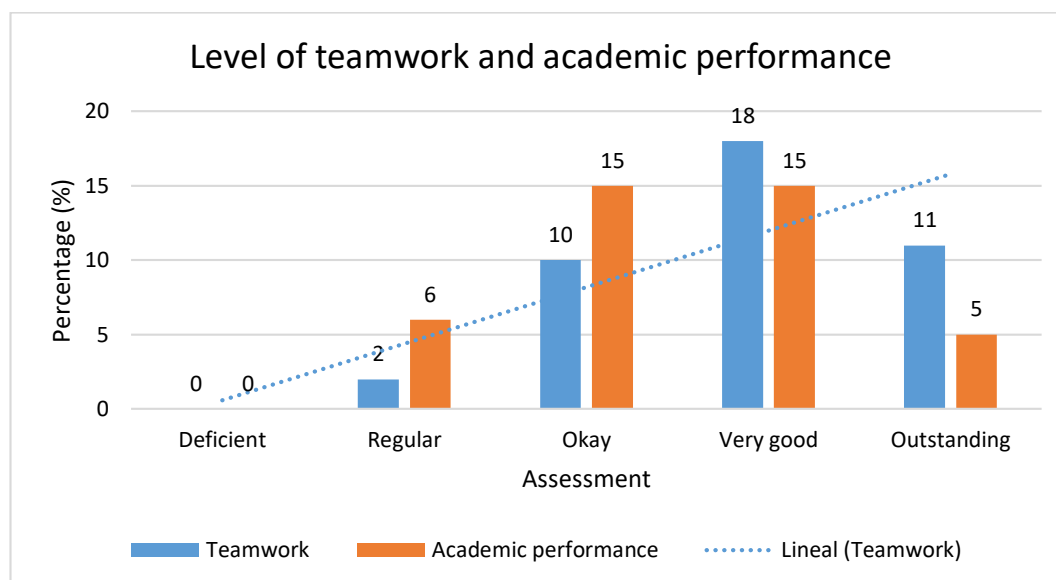


Figure.2. Level of teamwork and academic performance

Normality Test

Before carrying out the respective hypothesis test, we will first determine if there is a normal distribution of the data (parametric statistics) or not, that is, a free distribution (non-parametric statistics). For this purpose we will use the Kolmogorov Smirnov normality test ($n > 50$).

Table 4. Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
teamwork	,513	87	,000	,418	87	,000
Academic performance	,471	92	,000	,536	9	,000

The normality test shows that both variables are not distributed according to a normal law, since the sig. asymptot for both variables it is 0.000, that is, for the teamwork group, it is below the predetermined alpha significance level (0.05); therefore, for the academic performance variable it is 0.000, it is below the predetermined alpha level of significance (0.05). Which means that, for the analysis of the relationship between these two variables, non-parametric tests were chosen. Therefore, the data does not come from normal populations, since they present a percentage of less than 5%.

General hypothesis

a) Statement of the hypothesis

There is a significant relationship between teamwork and academic performance of the students of the UNDC Professional School of Accounting, 2022.

Statistical hypothesis

H1: Yes, there is a significant relationship between teamwork and academic performance of the students of the UNDC Vocational School, 2022

Ho: There is no significant relationship between teamwork and academic performance of the students of the Professional School of Accounting, 2022.

b) Establishes the confidence level

95% confidence level

c) Establishes the level of significance

5% (p-value < 0.05).

d) Choice of statistic

$$\frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{n\sum x^2 - (\sum x)^2} * \sqrt{n\sum y^2 - (\sum y)^2}}$$

Using the SPSS v 25.0 software, the calculation was made, obtaining:
value_ (sig. Bilateral).

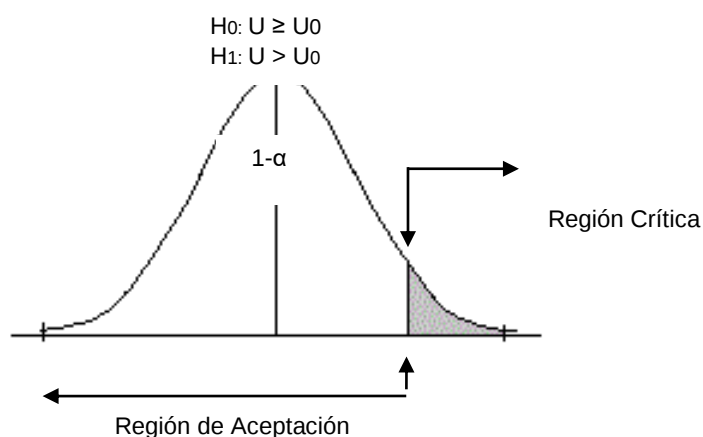
Table 5. Correlations

	Teamwork	Academic performance
Pearson Correlation	1	,738**
Sig. (2-tailed)		,000
N	41	41
Pearson Correlation	,738**	1
Sig. (2-tailed)	,000	
N	41	41

** . La correlación es significativa en el nivel 0,01 (bilateral).

A moderate correlation of 0.738 is observed.

Graphic representation



f. Decision

As the p-value (sig. =0.000) is less than the level of significance (0.05). Then we make the decision to reject the null hypothesis and accept the general hypothesis.

g. conclusions

It is concluded that there is an adequate significant relationship between teamwork and academic performance in UNDC students, as demonstrated by the results of the contrast of the hypothesis test. Regarding their teamwork skills, the students reported high capacity for team planning (80.9%), communication (68.8%) and low capacity for collaborative problem solving (25.5%). Teamwork skills did not show significant correlations with individual tests, but did show a direct correlation with some group tests and applications. In this case, although the performance with teamwork was only evaluated at the end of the strategy, the results are significant, showing that university students manage to learn and work collaboratively, perceiving high levels of teamwork in them. The main challenge for teachers lies in promoting the ability for students to take the initiative and lead teamwork, since it is a competence that will later be claimed in the professional context (Rivera et al. 2017, p. 7). It is true that it is not just a matter of attitudes, it would be necessary to delve into the characteristics that accompany groups of university students to complete their profile, at the level of strategies they use, learning approaches, self-concept, etc. (López et al., 2007, p.10).

IV. Conclusions

- It was shown that the application of teamwork in academic performance occupies 61.0% (25) at the highest level. Therefore, teamwork improves the academic performance of students; however, it is necessary for teachers to apply this technique in their classes, since it is demonstrated in the results.
- It was determined that more than 50% of the respondents are above 2.61, that is, they have a favorable attitude. On average the subjects are located at 2.61 (favorable). Likewise, 0.494 scale units deviate from the average. Therefore, the use of this technique benefits the student.
- Finally, it is concluded that there is an adequate significant relationship between teamwork and the academic performance of university students, due to a moderate correlation of 0.738.

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