

## Professional and personal traits of the teacher and the relationship with didactic strategies

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### ABSTRACT

During the context of virtual classes due to the pandemic, it was evidenced that many teachers had to face accelerated adaptation stages, which is why teachers presented difficulties in designing their teaching strategies and students showed certain difficulties in their learning. In this sense, this article aims to determine how the professional and personal traits of the teacher are related to their teaching strategies, in the context of COVID-19, from the perspective of the students. For which an investigation was developed with a quantitative approach, correlational level and non-experimental design. It was determined that there is a moderate direct relationship between the professional and personal traits of the teacher with his didactic strategies in the context of virtual teaching. Thus, it was also identified that teachers do not pour their professional experiences into the development of the subject, additionally it does not favor the solution of problems related to real life applications; this leads teacher to reflect on the importance of the construction of student knowledge, especially if it is about subjects that are taught in the last cycles, since the student is waiting for how and in which processes their knowledge will be applied theoretical knowledge.

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## 1. INTRODUCTION

One of the sectors that experienced a series of consequences during the early days of the COVID-19 pandemic was the university education sector, in which face-to-face classes were cancelled, for which reason a transformation and subsequent adaptation of the plans was required teachers towards an online modality [1], [2]. Initially, communication problems were experienced between students and teachers typical of the context, in addition, many universities had technological platforms, however, and they showed failures due to high congestion and demand due to the volume of students who connected [3]. These drawbacks were shown because many countries had a traditional educational model, so the implementation of virtual education meant a drastic change in the activities of teachers and students [4], [5]. In other words, many universities adapted to a virtual teaching process in a hurry [6], [7] and it is that although some students have seen themselves

beneficiaries with the narrowing of gaps in the management of virtual learning tools, there are still gaps of a social and digital nature to be reduced [8], [9]. The diversity of digital tools generated different effects on teachers with less technological literacy, becoming a challenge for some and a difficulty for others [10]–[12].

Thus, the teaching activity in the face of the virtualization of higher education shows that the professional work of university professors is not carried out in a way that is alien to external reality and the contextual changes to which it is exposed, but is exercised dynamically [13], [14]. The purpose of a teacher is not only for the student to learn knowledge of a specific area or discipline, but also to transmit a positive attitude focused on their professional and personal traits that contribute to an integral formation of the student [15], [16]. Attitudes represent the thoughts, feelings and even preconceived ideas that lead to behaviors or reactions in a certain way [17]. Therefore, it is relevant to highlight that teachers have strengths and weaknesses just like students, however, from their role as training mediator, the teacher should appear as an educator with creative and humanistic ideas [18], with the ability to motivate the student so that he develops and actively participates in his own knowledge [19]. In addition, the attitude of the teacher in the context of COVID-19 has been a relevant factor for conducting and managing virtual class sessions, since a negative attitude has prevented teachers from advancing in adapting to this new teaching modality and the implementation of their didactic strategies [20]–[22].

In the context of COVID-19, teachers faced various difficulties and complications when designing and establishing their teaching strategies, in many cases they had to adapt at an accelerated speed, which is why they were filled with moments of tension and uncertainty [23]–[26]. This health crisis has forced the teaching and learning models to be reconsidered, in which the need for the use of didactic strategies based on technological resources arose [27]–[29]. Didactic strategies are a relevant aspect in teaching performance since it allows teaching to be conducted, not only through videoconferences or others, but it is necessary that these strategies attract attention and stimulate research and dynamic, creative and leading participation of students [30]–[33]. Regarding the perception of students regarding the teaching strategies and techniques carried out by teachers, they point out that they have perceived changes, ultimately evidencing changes in the strategies and techniques used both before and after confinement [34].

Always focusing on the context of virtual teaching in the midst of COVID-19, knowing student satisfaction with teaching has become vitally important for improving academic quality [35], [36]. Universities, in order to know the level of quality that they have achieved with virtual education, during the pandemic, have used many instruments to evaluate the attributes or perceptions of students about teaching performance and educational service in general [37], [38]. The opinions of the students related to their satisfaction linked to teaching performance highlight certain skills in the teacher's work, such as interpersonal, formative, cognitive, and ethical aspects [39]. Student satisfaction with teacher performance will reflect the effectiveness in all aspects of the educational experience to allow all students to complete the subjects optimally and express their satisfaction with what the teacher has developed [40], [41].

Based on the previous explanation, this scientific article aims to answer the following research question: How are the professional and personal traits of teachers related to their teaching strategies, in the context of COVID-19, from the perspective of the students. In order to answer the research question, the general objective was defined as: Determine how the professional and personal traits of the teacher are related to their teaching strategies, in the context of COVID-19, from the perspective of the students. Therefore, this article describes the following aspects: Similar studies that justify and support the research problem, the research methodology used, the results obtained through descriptive and inferential statistical analysis, the discussions with other investigations and finally the conclusions reached.

## 2. SIMILAR STUDIES

In relation to the studies in which they sought to determine the relationship between the professional and personal traits of the teacher and their didactic strategies, from the perspective of the teacher, in this regard, several researchers [42], [43] developed similar research papers in which they determined how the teacher's attitude regarding the use of information and communication technologies (ICTs) is related to their performance, in the context of confinement due to the COVID-19 pandemic, achieving in both evidence the existence of a moderate direct relationship. So, Saavedra *et al.* [20] carried out a study on the correlation between the teacher attitude variables towards the use of technology and its use in their didactic strategies, in which it was determined that there is a significant correlation. However, there are other studies in which the relationship of the two variables under study was investigated from the perspective of the student, in this regard, Béjar and Vera [34] developed an investigation regarding the student's perception of the didactic strategies used by teachers in the context of COVID-19, and their relationship with the professional skills of the teacher in relation to the management of virtual tools. Likewise, Valencia [40] developed a research work that seeks to identify the level of student satisfaction with respect to teaching performance, managing to establish that the professional and personal traits of the teacher have a great influence on the degree of satisfaction of the student.

In addition, Araoz *et al.* [41] developed an investigation on the perception of students about the virtual education developed by the teacher in the context of COVID-19, in which they identified that the professional traits of the teacher on the management of technological tools will allow them to improve their skills didactic strategies, thus making the student's learning process more effective.

### 3. RESEARCH METHOD

#### 3.1. Research approach

The research approach is quantitative, since categorical data was collected, coded on a Likert scale, with the purpose of testing the research hypothesis that there is a relationship between the professional and personal traits of the teacher with their didactic strategies, in the context of COVID-19, from the students' perspective, all through the use of inferential statistical analysis. The structure for research with a quantitative approach integrates the following phases: theory, hypothesis, observations, data collection, data analysis, and results [44]. In this sense, quantitative research benefits greatly from the use of data collection techniques such as the questionnaire, which greatly enriches the research by providing data that is statistically represented, either descriptively or inferential [45].

#### 3.2. Research level

The research has a relational level, this is because it seeks to measure the degree of correlation between the variable "professional and personal traits of the teacher" with the variables "teaching strategies." In this regard, a study [46] pointed out that a relational level investigation aims to evaluate the relationship that exists between two variables through the application of statistical techniques. In this same line of previous study [46], it is stated that in a relational level investigation the aim is to measure how one variable affects or influences another variable [46]. Additionally, research of this scope seeks to identify the level of incidence of extrinsic and intrinsic factors to the object of study [47].

#### 3.3. Research design

The research design is non-experimental because the data collected was analyzed in their natural states, no action was used that altered the study population on the perception of the variables under analysis. In non-experimental research, it is analyzed without deliberately manipulating the variables, that is, the associated variable is not intentionally modified, it is to observe the phenomenon as it occurs in its natural context and then analyze it [48]. It is also cross-sectional because the data was collected in the same period of time; the investigations are non-experimental, cross-sectional, since they aim to analyze the state of one or several variables at a given moment [49].

#### 3.4. Validity of the data collection instrument

Table 1 shows the questions that were part of the questionnaire, used as a data collection instrument, the same one that was adapted from the instrument used in the scientific article developed in [50], in which it was used to determine the Students' perception of teaching performance in the context of virtual teaching, based on five factors, whose answers were coded according to the Likert scale in the interval from 1 to 4, in which 1 represents "totally disagree", 2 as "disagree", 3 as "agree" and 4 as "totally agree". In this investigation, the study was limited to the two variables under analysis (professional and personal traits of the teacher and didactic strategies). Thus, an internal evaluation of the research instrument was also carried out through Cronbach's alpha, resulting in a value of 0.82. Another aspect to analyze was the distribution of the data collected through the normality test; Due to the number of students that were part of the study population (33 students), the Shapiro-Wilk normality test was used.

Table 1. Questions considered in the data collection instrument

Variable	Indicator	Questions
Professional and personal traits	PR1	Does he show a solid command of the knowledge of the subject he teaches and relates it to professional life?
	PR2	Do you pour your academic and professional experiences into the development of the subject?
	PR3	Do you project positive attitudes towards the University, life and social responsibility?
	PR4	Do you project proactive attitudes that allow you to lead by example?
Didactic strategies	DS1	Do you apply adequate teaching methods, procedures and techniques to the development of the subject?
	DS2	Is it conducive to basic or applied research in the development of the subject?
	DS3	Does it promote student participation and teamwork?
	DS4	Do you encourage problem solving and exemplify with practical or real-life applications?
	DS5	Do you reinforce learning with feedback activities?
	DS6	Does the form of evaluation coincide with the thematic contents of the topics developed?

## 4. RESULTS AND DISCUSSION

### 4.1. Results of the descriptive analysis and discussion

Figure 1 shows the results obtained from the percentage distribution of students, by response category for each question of the variable “Professional and personal characteristics”. In which if the categories of the responses “Agree” and “Totally agree” are added, the PR1 indicator reached a percentage of 100%, the PR2 indicator reached a percentage of 72.7%, the PR3 indicator reached a percentage of 97% and the PR4 indicator reached a percentage of 100%. These results significantly reflect student satisfaction with respect to the evaluated indicators of the variable under study. However, the indicator with the highest percentage of students “in disagreement” is the PR2 indicator, whose percentage is 27.3%. This reflects that there is a number of students who do not perceive that the teacher is not using or transmitting their academic and professional experiences in the development of the subject.

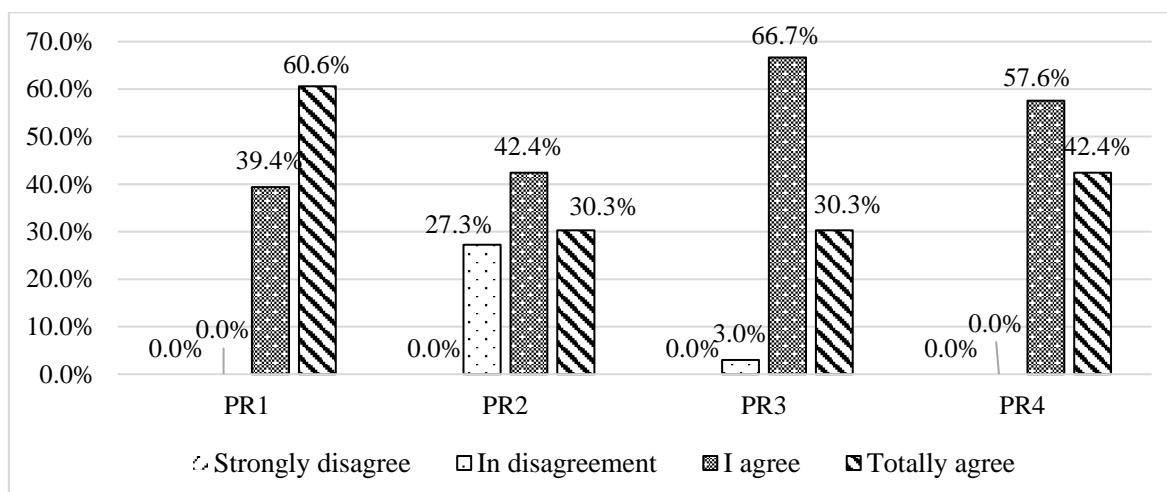


Figure 1. Percentage distribution of students by response category for each question of the variable professional and personal traits

Figure 2 shows the results obtained from the percentage distribution of students by response category for each question of the variable “Didactic strategies”; in which if the categories of the responses “Agree” and “Strongly agree” are added, the DS1 indicator reached a percentage of 100%, the DS2 indicator reached a percentage of 90.9%, the DS3 indicator reached a percentage of 100%, the DS4 indicator reached a percentage of 69.7%, the DS5 indicator reached a percentage of 100% and the DS6 indicator reached a percentage of 97%. Like the “Professional and personal characteristics” variable, these results also significantly reflect student satisfaction with respect to the evaluated indicators of the “Didactic strategies” variable. However, the indicator with the highest percentage of students “in disagreement” is indicator SD4, that is 30.3% of students indicate that they do not agree that the teacher “promotes problem solving and exemplifies with practices or of life real applications”. This identified aspect is somehow binding with what is also determined in the variable “Professional and personal characteristics”, since the students highlighted that the teacher does not “invest their academic and professional experiences in the development of the subject”.

Table 2 shows the results of the crosstab analysis between the variables under study, in order to establish whether there is an association. An important aspect to highlight is that the students' responses were recoded using the Baremacion process. The scales were built from the grouping of results in the percentiles 33.3% and 67.7%, that is, the response scale of the students was divided into three levels, these being low, medium, and high. With this, it was possible to identify that of all the students who perceived a low level in the professional and personal traits of the teacher, the highest percentage of these 27.3% indicated that they also perceived a low level in the application of strategies. Teacher didactics in virtual teaching in the midst of COVID-19. On the other hand, with respect to the students who perceived an average level of the teacher's professional and personal traits, the highest percentage of these 18.2% indicated that they also perceived an average level in the application of didactic strategies. In addition to the students who perceived a high level in the professional and personal traits of the teacher, the highest percentage of these 12.1% indicated that they also perceived a high level in the application of didactic strategies in the already specified scenario. Therefore, it can be established that there is an association between the variables under study.

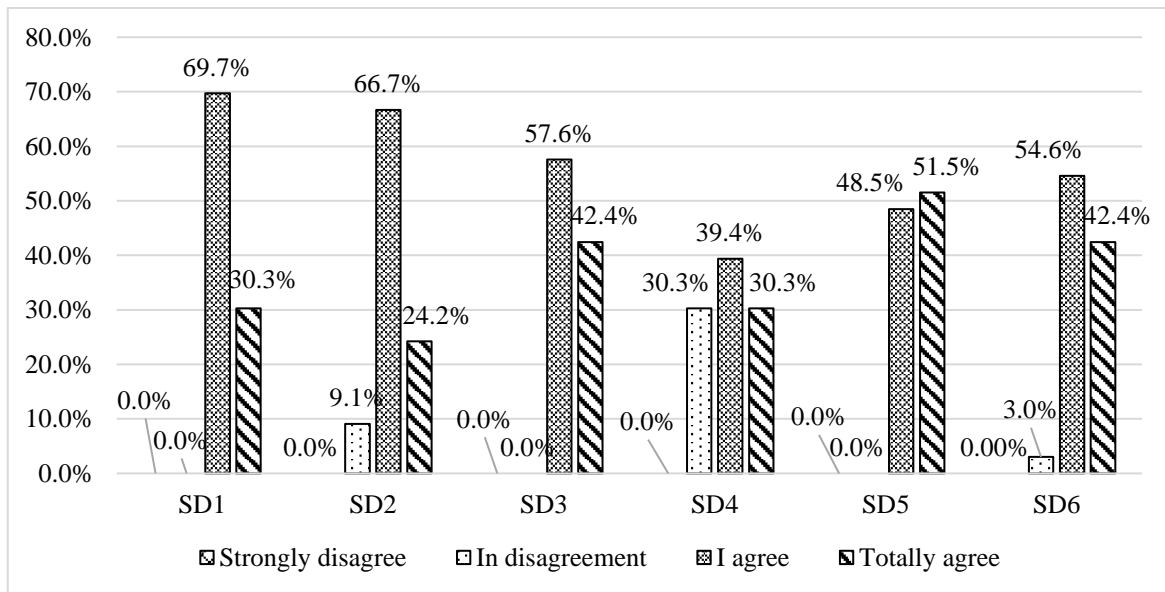


Figure 2. Percentage distribution of students by response category for each question of the didactic strategies variable

Table 2. Cross table between the study variables

Professional and personal traits	Didactic strategies			Total
	Low level	Medium level	High level	
Low level	27.3%	9.1%	6.1%	42.4%
Medium level	9.1%	18.2%	6.1%	33.3%
High level	6.1%	6.1%	12.1%	24.2%
Total	42.4%	33.3%	24.2%	100.0%

In this regard, Villalta *et al.* [37] concluded that in relation to the satisfaction of teaching performance in the context of virtual teaching due to the pandemic 63.4% of students are satisfied, likewise 19.7% are totally satisfied and the 16.9% totally dissatisfied; there is a significant relationship between the degree of satisfaction and performance with the teacher. It should be noted that although in this research the author focused on the study of teacher performance, he points out that performance is constituted by their educational experience, and that this in turn manages to support an active, individualized, committed and constructive learning of the students. Araoz *et al.* [41] found a result of the analysis of students' perception of virtual education due to COVID-19, that 41.3% of students had a moderately favorable perception of the virtual education they had been receiving, on 31.1% a favorable perception and 27.6% an unfavorable perception. In this case, it is important to take into account that although the study focused on virtual education, the author associates virtual education with teacher performance or development, which in turn is linked to the professional traits of the teacher. This perspective takes into account what was indicated by the author who concludes that it was necessary to develop the technological and didactic competences of teachers so that they can improve their pedagogical practice and teaching is more effective.

#### 4.2. Result of inferential analysis and discussion

In order to answer the research question established for this study, the null hypothesis and the non-null hypothesis were defined. The null hypothesis ( $H_0$ ) was expressed as: The teacher's professional and personal traits are not directly related to his teaching strategies, in the context of COVID-19, from the students' perspective. While the non-null hypothesis ( $H_1$ ) was expressed as: The professional and personal traits of the teacher are directly related to their teaching strategies, in the context of COVID-19, from the perspective of the students.

To determine the statistic to test the hypothesis, first a normality test was performed through Shapiro-Wilk. With this normality test, it was possible to identify that the data collected have a normal distribution at the ordinal levels of the study variables, this is because the significance value (Sig.) was less than 0.05. Table 3 shows the results obtained through the normality test, with which it was established to use the Pearson correlation coefficient to carry out the hypothesis test.

Table 3. Normality test

Professional and personal traits Didactics strategies	Shapiro-Wilk		
	Statistical	gl	Sig.
Low level	.684	14	.000
Medium level	.822	11	.018
High level	.782	8	.018

Table 4 shows that the p-value is equal to 0.03. So, it can be established that the significance value (0.05) is greater than the p-value, which leads to the decision to reject the null hypothesis (Ho) and accept the non-null hypothesis (H1). Likewise, using the Pearson correlation test, a correlation coefficient of 0.378 was determined, which establishes that the relationship is moderate and direct.

Table 4. Result of the correlation test between the variables under study

Correlation test	Professional and personal traits	Didactic strategies
Pearson correlation	1.00	.378*
Sig. (bilateral)		.030
N	33	33
Pearson correlation	.378*	1.00
Sig. (bilateral)	.030	
N	33	33

\*The correlation is significant at the 0.05 level (bilateral)

In this regard, Nayir and Saridas [51] concluded that teachers who develop an innovative behavior or trait in their activities related to their teaching performance in class sessions will achieve a regulatory effect in terms of cultural values. Andzik *et al.* [52] point out that there is a statistically significant association between the professional traits of the teacher linked to the amount of training he acquired with his ability to communicate with his students, that is, teachers with greater mastery will have to develop various didactic support strategies for their students around their communication. In the same line of results, Amiruddin and Jannah [53] concluded that teachers who use an appropriate communication style will build conditions for class sessions to provide significant contributions to the students' acquisition of knowledge. As evidenced in all the investigations to which reference is made, they indicate that there is a relationship between the attitudes or professional traits linked to the domain of the subject, their innovative capacity or the style of their communication, with respect to the activities or strategies in the sessions of class and that contribute to the improvement of student learning.

## 5. CONCLUSION

From the results obtained, it is concluded that for students to improve their learning based on structured didactic strategies applied in virtual class sessions, teachers must place special emphasis on their professional and personal traits or attitudes, which are often not we consider it. This investigation identified that the indicators that present a higher level of student dissatisfaction with respect to professional and personal traits is that the teacher does not pour their academic and professional experiences into the development of the subject, as well as that the teacher does not favor solving problems related to real life applications; This leads teachers to reflect on the importance of aspects in the construction of student knowledge, more so if it is about subjects that the teacher teaches in the last cycles, since the student is expecting how and in what processes their theoretical or conceptual knowledge will be applied. All those involved in the university educational process must understand that the analyzes and results obtained in the context of COVID-19 on the teaching-learning process, as described in this article, are not only limited to totally virtual teaching scenarios, but also On the contrary, they are relevant since in the current post-pandemic scenario, many university institutions are developing hybrid education, so this research contributes to establishing criteria to be taken into account during the process of adaptation and implementation of this teaching-learning modality.

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