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Virtual education and student perception of teacher performance in the distance learning environment

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ABSTRACT

This article aims to carry out a descriptive analysis of the performance of teachers qualified as researchers, in the distance education environment according to the student's perspective. The results will be a frame of reference for university authorities on the path of continuous improvement of virtual education. When carrying out the research, a general qualification of the teaching performance of 14.20 was determined, established the highest grade equal to 20, it can be indicated that there is a good performance of the teacher in the virtual education environment. In addition, the results show that the highest evaluation corresponds to the indicator management of the group and fulfillment of the objectives, which is directly related to the administration of the class, while the lowest rating is for the indicator "Teacher effectiveness so that their students acquire relevant knowledge, skills and attitudes", which is directly related to the didactic strategies used, that is, to the use of technological tools that today are more than just an option. Finally, it can be noted that of the total of 17 teaching, 23.5% present a very good performance, 35.3% present a good performance and 41.2% present a regular performance.

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1. INTRODUCTION

The evaluation of teacher performance is a systematic process whose objective is to make value judgments about the quality of the fulfillment of teacher responsibilities in the teaching, learning and development of students through continuous monitoring [1]. However, let us take into account the definition of the term evaluation, which is defined as a reflective activity that allows us to know the quality of the processes and the achievements [2]-[4]. In relation to the aforementioned, it is stated that teacher performance evaluations respond to continuous improvement processes in public and private universities [5]-[7]. Likewise, teaching performance is a factor that is directly associated with the quality of university education [8]. Along the same line of opinion, it is affirmed that teachers are relevant actors for the quality of the teaching and learning process in universities [9]-[12]. Among the different factors that define teacher performance, the assessment made by students is of vital importance [13].

However, when university teachers perform various functions, the possibility arises that the personality traits required are specific to each of them and therefore affect performance in the classroom [14]. The scientific

activities developed by university teachers are key in the construction of the university model [15]. The transformation of the teaching-learning process into science education starts from the development of teachers recognized as researchers [16], [17]. From the university perspective, it is important and necessary to empower research teachers the need to make significant contributions in their work, reflected in the assessment from the student's perspective, in relation to their performance in the classroom [18]. Nowadays, there is little autonomy on the part of the research teacher, which could be translated into the little sense of belonging towards the institutions where they develop and in a limited acquisition of new skills, which may affect their motivation and performance [19].

From a study carried out in Peru, in the period from 2014 to 2017, there was an increase in the budget, by the government at that time, to increase and promote scientific production, in institutions such as universities and research institutes which they are what more scientific production carried out [20]. The results show that the scientific production of university teachers in Peru has increased, compared to previous years, however, with respect to other countries in the region, its performance is moderate and slow [21]-[23].

In Peru, the characterization of research teachers is carried out according to the regulations of the National council of science, technology and technological innovation (CONCYTEC), which is detailed in the regulation manual to be recognized as a National Registry of Science, Technology and Technology of Technological Innovation (RENACYT) researcher [23]. The RENACYT is a repertoire of people who are dedicated to the world of research, and who possess qualities capable of promoting and carrying out topics that contribute to society, the same one that María Rostworowski (MR) and Carlos Monge (CM) [24] classify as teaching.

In this sense, this article aims to carry out a descriptive analysis of the performance of university teachers qualified as RENACYT researchers in the distance learning environment. It is important to specify that this description of the teaching performance findings will be made from the perspective of the student of a Public University in Peru. Initially, the results of each of the teacher performance indicators will be described quantitatively, the same that has been categorized by specific indicators and global indicator, with the purpose of identifying which is the indicator that presents the lowest level of qualification according to the perception of the student. These results will allow having a frame of reference that allows university authorities to carry out continuous improvement actions in order to increase teaching performance in virtual education, even more so considering that this type of distance learning modality will continue to be used during all of 2021 in Peru.

2. RESEARCH METHOD

2.1. Research level and design

The research design is non-experimental, this is due to the fact that no action was carried out or applied that modifies or alters the natural condition of development of the research teacher, in such a way that this does not cause an effect on the perception of the university student. On the contrary, the data collection process was carried out under a natural context. The research level is descriptive correlational. It is descriptive due to the fact that through certain statistical indicators the analysis of the performance of the research teacher will be carried out, focusing on the six indicators that are part of the only research variable under analysis. And it is correlational because it will seek to determine if there is an association between the indicators of the dimensions that make up the variable under analysis, called "specific dimension of teacher performance", and "global dimension of teacher performance", in order to determine which indicator of the specific dimension significantly affects the global performance indicator in the distance learning environment.

2.2. Study unit

The population is made up of all research professors, and who have a national registry of science, technology and technological innovation, and who work in the Peruvian University in analysis. Under this criterion, the population is composed of 17 teachers, because the data collection instrument could be applied to all teachers, it was considered for this research that the sample is made up of the entire population. It should be noted that the evaluation of teaching performance was carried out under the perception of the 761 students from the seventh to the tenth cycle, belonging to the 5 professional schools of the university.

2.3. Instrument and validation of the data collection instrument

The instrument used in this research is a survey, which was approved by resolution at the University Rectory level, the same that is part of the rules and regulations of the university under analysis. The composition of this survey is determined by six indicators grouped into two dimensions, the specific dimension (IED) and the global dimension (IGD). These indicators are shown in Figure 1. In order to

validate the data collected, the reliability test is carried out through Cronbach's alpha, using the statistical software SPSS V25. Obtaining an average Cronbach's alpha coefficient equal to 0.995, this means that the data collected are highly reliable [25].

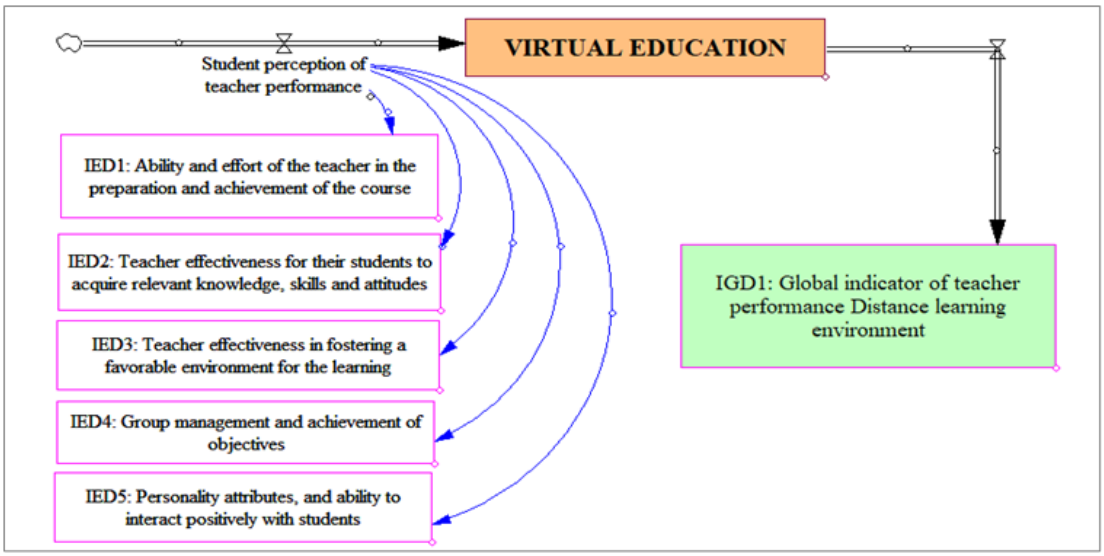

Figure 1. Teacher performance evaluation indicators

3. RESULTS AND DISCUSSION

It should be taken into account that the evaluations of each of the evaluation indicators were entered through a vigesimal scale, that is, the evaluations range from 0 to 20. With regard to the teacher's ability and effort indicator in the preparation and achievements of the course, according to Figure 2, there is an average performance of the 17 research teachers equal to 14.20. 29.5% present a very good performance, 23.5% present a good performance and 47% present a regular performance in terms of planning the subjects taught, in which the correct presentation and explanation of the syllable of study, communication towards the students on the development of the class and the support materials to be used for the expansion of knowledge.

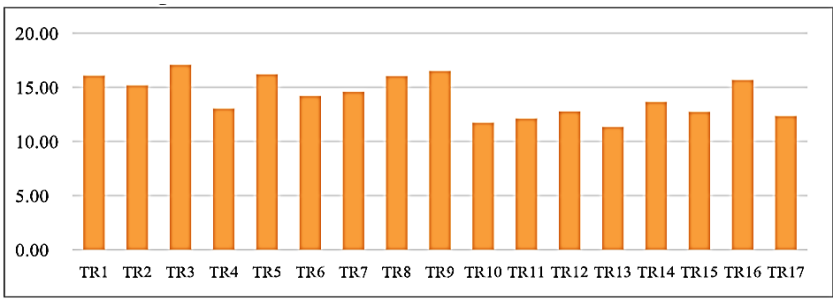

Figure 2. Results indicator IED1

In Figure 3, regarding the teacher effectiveness indicator for their students to acquire relevant knowledge, skills and attitudes, there is an average performance of the 17 research teachers equal to 14.03. This reflects that 17.7% present a very good performance, 41.2% present a good performance, 35.3% present a regular performance and only 5.8% present a poor performance, in terms of the application of didactic strategies, in which it intervenes the evaluation of the techniques and tools of motivation and innovation for the participation of the student and the teamwork in the development of the subject, as well as the propitiation for the solution of problems with practical and real applications regarding the subject matter. This responds to the study carried out by Nada, where the results show the favorable perception of the use of technologies, since these tools improve learning and understanding [26].

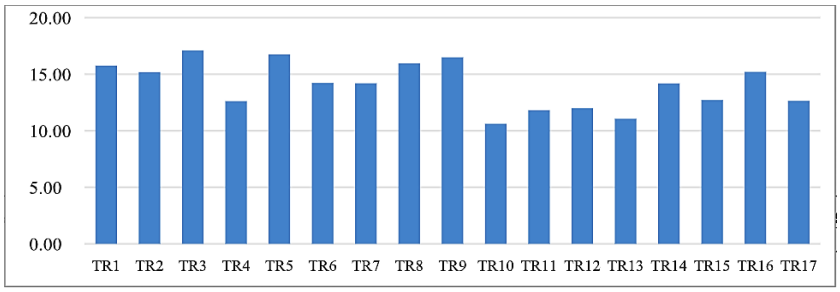

Figure 3. Results indicator IED2

Regarding the indicator effectiveness of the teacher in promoting a favorable environment for learning, from Figure 4, it can be interpreted that there is an average performance of the 17 teacher researchers equal to 14.07. In a qualitative way, 23.5% present a very good performance, 35.3% present a good performance, 35.4% present a regular performance and only 5.8% present a poor performance, in terms of communication with students, in which they intervene the evaluation of the quality of the oral or written language, the motivation for the participation of the students through opinions, questions, discussions, teamwork or other actions and the answer with clarity before the questions and doubts of the students. Regarding this indicator, the study carried out by Ouahabi confirms that an effective and quality distance learning must be complemented with a good preparation of the teacher, in the administration of his class, communication and commitment towards his performance. For this reason, when faced with these investigations, the presence of the authorities is important for making decisions [27].

In Figure 5, regarding the indicator group management and fulfillment of the objectives, there is an average performance of the 17 teaching researchers equal to 14.48. Finding 23.5% with a very good performance, 35.3% with a good performance and 41.2% with a regular performance, in terms of the administration of the class, in which the evaluation of the fulfillment of the beginning and the punctual completion of their class, the ability to maintain discipline, compliance with the activities scheduled at the beginning of class and indicated in the syllabus.

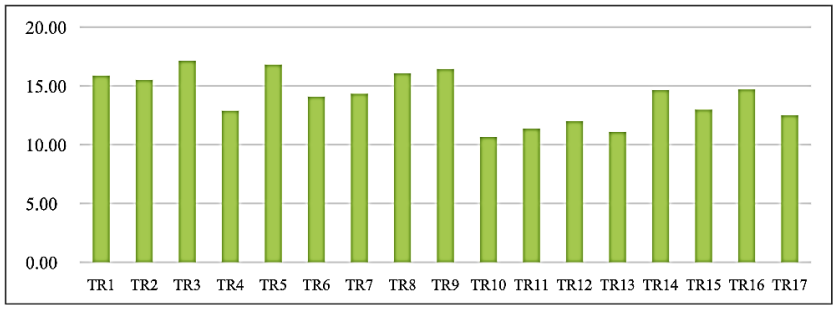

Figure 4. Results indicator IED3

Figure 5. Results indicator IED4

In Figure 6, regarding the personality attributes indicator, and ability to interact positively with students. The 23.5% of teachers present a very good performance, 35.3% a good performance, 35.4% a regular performance and 5.8% a poor performance, in terms of personal and professional traits, in which the qualification of the solid domain of the knowledge in the development of the subject and the way it relates to professional practice, academic and professional experiences.

Figure 6. Results indicator IED5

In Figure 7, with respect to the global evaluation indicator of teacher performance, there is an average performance of the 17 teacher researchers equal to 14.18. In view of this, 29.4% present a very good performance, 29.4% present a good performance, 29.4% present a regular performance and only 11.8% present a poor performance, in this indicator the student's qualification intervenes so that the teacher continues with the development of the subject.

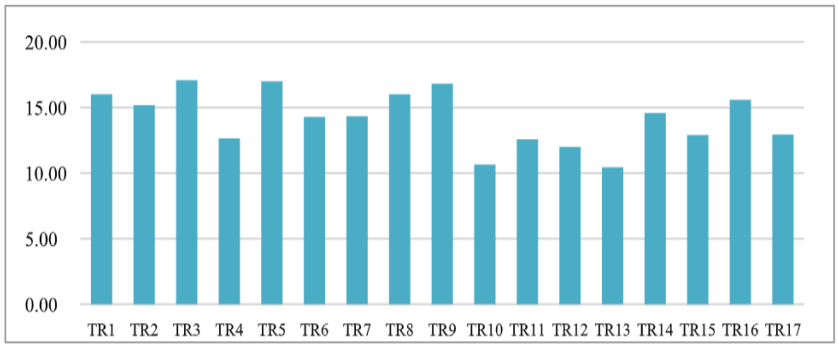

Figure 7. Results indicator IGD1

Showing the results obtained, it can be noted that the indicator that presents the lowest level of qualification is that of "Teacher effectiveness so that their students acquire relevant knowledge, skills and attitudes", which is related to the didactic strategy applied, with an average of 14.03. Being the highest evaluation of 14.48, it can be indicated in a general way that the teaching performance has an average score of 14.20, on the qualitative scale, it translates as a good performance. Specifically, it can be indicated that 23.5% present a very good performance, 35.3% present a good performance and 41.2% present a regular performance, from the student's perspective. Given this, it is necessary to take into account what is indicated in [28] where it is pointed out that many teachers were not fully prepared for a virtual system, finding 16% with difficulty in connectivity, stating that the greatest inconvenience for this modality is planning virtual curriculum, since they do not have all the inputs to make it assertive. In order to statistically demonstrate the correlation between the indicators, the Pearson test is applied with the SPSS, which will indicate whether there is a relationship and its degree. Table 1 shows the results of the correlation of the global indicator of teacher performance (IGD1) with the IED1 indicator.

Table 1. Correlation of the global indicator of teacher performance with IED1

		Global indicator of teacher performance
Ability and effort of the teacher in the preparation and achievement of the course	Correlation	0.969
	Significance	0.000

The Table 1 shows that there is a strong and significant relationship of 0.969 between the qualification of the global indicator of teacher performance and satisfaction with the planning of the subjects taught. Next, Table 2 shows the results of the correlation of the global indicator of teacher performance (IGD1) with the IED2 indicator. According to the results of Table 2, there is a strong and significant relationship of 0.992 between the qualification of the global indicator of teacher performance and satisfaction with the application of teaching strategies. Based on the results where the importance of didactic strategies is observed, for student satisfaction. As indicated in [29]-[31], the research results show that there is a positive and large correlation between teaching strategies and academic satisfaction, therefore, respondents who consider teaching strategies to be regular also have a regular level of academic satisfaction of teaching performance. Since, didactic strategies promote the development of capacities and achievements in student learning, through reflective and flexible teaching resources [31]. The Table 3 shows the results of the correlation of the global indicator of teacher performance (IGD1) with the IED3 indicator.

Table 2. Correlation of the global indicator of teacher performance with IED2

		Global indicator of teacher performance
Teacher effectiveness for their students to acquire relevant knowledge, skills and attitudes	Correlation	0.992
	Significance	0. 000

Table 3. Correlation of the global indicator of teacher performance with IED3

		Global indicator of teacher performance
Teacher effectiveness in fostering a favorable environment for the learning	Correlation	0.979
	Significance	0.000

From the Table 3, it can be indicated that there is a strong and significant relationship of 0.979 between the qualification of the global indicator of teacher performance and the satisfaction of the communication given by the teacher. These results may respond to the research carried in [32]-[34], in which it was found that students who perceive a high degree of autonomy, have greater communication with the teacher, finding a strong correlation between the perception of autonomy and communication, these factors interact as variables that explain student satisfaction with teaching performance, since when both occur together, their effect is greater than that of each factor separately. The Table 4 shows the results of the correlation of the global indicator of teacher performance (IGD1) with the IED4 indicator.

The results of Table 4, show that there is a strong and significant relationship of 0.956, between the qualification of the global indicator of teacher performance and the satisfaction of the class administration. In his research [35], comes to the conclusion that a good grade by students towards the teacher is due to being satisfied with the following factors: timely and quality feedback, order (discipline, responsibility, punctuality and coherence between the activities and the course program). The Table 5 shows the results of the correlation of the global indicator of teacher performance (IGD1) with the IED5 indicator.

Table 4. Correlation of the global indicator of teacher performance with IED4

		Global indicator of teacher performance
Group management and achievement of objectives	Correlation	0.956
	Significance	0.000

Table 5. Correlation of the global indicator of teacher performance with IED5

		Global indicator of teacher performance
Personality attributes, and ability to interact positively with students	Correlation	0.995
	Significance	0.000

The Table 5 indicated that there is a strong and significant relationship of 0.995 between the rating of the global indicator of teacher performance and the perspective towards personality attributes, and ability

to interact positively with students. As indicated by Arce-Santillan *et al.* [36], in his quantitative, correlational research, determined that the intrinsic motivation of the students is related in turn to the interaction skills of the teacher. The student-teacher interaction reported by the students was positively related to their satisfaction and their "perceived learning", but not to the final grades.

In general, with respect to the research teachers in [27], [37]-[40] it is indicated that, according to the perceptions of the students, the competence that they prioritize in the evaluation of the teaching performance is the pedagogical-didactic competence, in other words, the tools or techniques that the teacher uses for student learning. However, there is no coincidence of criteria of the student and teacher, regarding the order of importance that they give to the other dimensions. The students consider that the competences of university extension, academic management and research should be valued in this order of priority, while the teachers prioritize the investigative competences, those of academic management, those of university extension.

Given the results, it should be noted that planning, communication and interaction are central elements for the process of building knowledge, which are universal to all teaching and learning situations. Good communication between the teacher and the student represents one of the pillars on which the educational experience rests, regardless of whether students and teachers coincide in the same time and space, referring to the new virtual teaching-learning context. As indicated by [41]-[43] in teaching, a good teacher is needed with qualities such as: responsibility, flexibility, concern, creativity, dedication, communication and empathy, it is also important to indicate that virtual teaching-learning spaces require new Roles of the teacher, who must become a facilitator, teaching how to use computer tools, creating habits and skills in managing the search, selection and treatment of information. The principle to follow in the use of technological resources is to adapt technological tools to teaching, not teaching to them.

4. CONCLUSION

At present, each of the teachers has coped better with virtuality, trying to arrive at the most appropriate strategy and methodology for teaching students. Teaching performance in virtual education stands out for its predisposition to changes in teaching-learning even without being prepared and without having all the necessary technology and tools, likewise the interest in maintaining the processes of education further commits the teacher who seeks self-education and training to provide good teaching from the means of virtuality.

The results of this research indicate that there is a good performance of the research teacher, likewise, the indicator of group management and fulfillment of the objectives, which is related to the administration of the class is the one that presents a higher rating, while the indicator "Teaching effectiveness for their students to acquire relevant knowledge, skills and attitudes", which is related to the teaching strategies used, is the one with the lowest grade point average.

In general, it can be indicated that the students were satisfied with the administration of the class, which for the most part consisted of discussion forums, collaborative works, projects and case studies. The low qualification of the didactic strategies is due to the fact that there is a limited use of technologies in the teaching and learning process, due to the accelerated and abrupt change of virtual teaching, for this reason, the teacher does not use information technologies and communications (ICT) or, for technical reasons, the e-learning platform is unstable.

The teacher and his performance in virtual education includes effective interaction between students and the educational institution, giving significant contributions from the educational chair to personal training, self-education systems, human values and other aspects that characterize it, which is why Given the results obtained, it is suggested to implement management models for the evaluation of teacher performance, always involving students, because it is very important to take their opinion into account.

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