



Virtual Education and Professional Development in Teachers of UGEL 15, Huarochiri - Lima

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Abstract

The objective of this article is to determine the relationship between digital skills and professional development in teachers at UGEL 12, Canta. The study was of type, of correlational-causal design, it is non-experimental and cross-sectional since the phenomena were observed in their natural state and the data collection was carried out in a single moment. The survey technique was used to measure the variables, likewise a questionnaire was used as an instrument for each variable, for the quantitative variable digital skills a 32-item questionnaire was used considering three dimensions; In relation to the professional development variable, a 33-item questionnaire was used, which includes three dimensions: time organization (12 items), planning (9 items) and the virtual resources dimension (15 items). The population was 450 teachers, the inclusion criteria were the teachers who worked throughout the year 2021 in the institutions of UGEL 12, the study sample consisted of 205 teachers; According to the results obtained, a correlation coefficient of $\rho = .695^{**}$ was obtained, demonstrating that the relationship between digital skills and professional development of teachers is positive, so it is concluded that there is a significant relationship between digital skills and professional development in teachers at UGEL 12, Canta - Lima.

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Introduction

Currently, one of the greatest challenges for education is linked to the way in which teachers have had to progressively adapt to virtual work as a result of the demands and demands of modern times, taking into account social distancing due to the Covid 19 pandemic that brought negative repercussions in all areas, including in the educational field (Portuguez H. Alanya C. León M. and Castro, 2022), since when face-to-face education was interrupted, the abrupt change in the use of traditional resources for technological resources (García, 2021).

There are multiple digital tools, which have allowed the development of globalization, and reduce the distance between individuals, so that they can carry out various activities virtually (Mello et al, 2020). In the educational area, ICTs allow the individual to have access to knowledge without the need to move, since these tools offer interactivity in the use of multimedia, communication, dynamism and in the presentation of content (Kraus et al, 2019), so in the context of the pandemic, virtual education was decisive to continue with the teaching-learning process.

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However, for the educational system, this unforeseen situation became challenges and demands for educators, once they were forced to adapt to this situation, thus producing abrupt changes in the teaching methodology (Portuguez H. Alanya C. León M. and Castro, 2022). According to Unicef (2020), complex situations for educators were evidenced since, in many cases, there is a marked digital divide, which makes access to virtual education and technology difficult, causing many teachers not to have with optimal performance regarding the use of ICT.

Thus, for students to achieve the expected learning, it is essential that teachers have the predisposition to train and reinvent themselves in the management of digital tools (Araúz, 2020). On the other hand, the insertion of these technologies generates new formats of professional development (Parsons et al., 2019) since it makes learning possible in any place and at any time (Trust, Krutka, & Carpenter, 2016). Likewise, studies such as the one by González et al. (2020) reveal the importance of technological tools for professional development and learning processes in teachers.

Despite the benefits of virtual education, studies such as Educar (2020) show that many teachers prefer to continue with traditional teaching, avoiding as much as possible interacting with their students through educational platforms; Therefore, due to what is supported, the present study poses as a general problem: How is virtual education related to the professional development of teachers at UGEL 15, Huarochirí? Likewise, the specific problems raised: How is virtual education related to the dimensions of virtual resources in the classroom, planning and organization of time in teachers of UGEL 15, Huarochirí?

Method

The study is of a basic type since it seeks to increase scientific knowledge without contrasting it with practical knowledge. The research was non-experimental-cross-sectional since the study variables were not manipulated and these were observed in their natural environment for later analysis, it is also cross-sectional because the instruments were applied at a certain time (Hernández and Mendoza, 2018).

Quantitative research, since the elements of variation have a numerical character, is correlational since it measures the possible relationships between the research variables

(Hernández and Mendoza, 2018). The technique used was the survey, a technique that consists of structured questions with response alternatives, a questionnaire for each variable was used as instruments, which was sent through google forms. Regarding the virtual education quantitative variable, the virtual education questionnaire was used as an instrument, which was dimensioned according to Marciniak and Gairín (2018) in 6 components: institutional context (4 items) and covers aspects such as implementation of virtual education actions,, support infrastructure, academic affairs; the student dimension (3 items) which evaluates the characteristics of students such as access to technology and their technological skills; the teacher dimension (2 items) assesses the teacher's ability to design within the virtual teaching-learning environment; the technological infrastructure dimension (2 items) which includes technological competence for students to cover the area effectively; pedagogical aspects (4 items) refers to teaching and/or material resources, learning activities, teaching strategies, learning assessment, training objectives and tutoring; life cycle (2 items): Refers to the evaluation of the stages of design, development and results of the virtual program. Regarding the professional development variable, a questionnaire with 33 items was used, which comprises three dimensions according to Rizo (2005), these were time organization (12 items), planning (9 items) and the virtual resources dimension (15 items).

The population is made up of 154 teachers from UGEL 15 of Huarochirí, the sample was random and considered 80 teachers. Once the data was obtained through the questionnaires, a database was created for the analysis of the data in Microsoft Excel and later they were exported to the SPSS software in its version 25.

Results

General Hypothesis

Table 1 shows that the relationship between the professional development and virtual education research variables is $\rho = .943^{**}$, so it is shown that the relationship is positive and strong; Since the confidence level is 95% and the probability is $p = 0.000 < \alpha = 0.05$, a significant relationship is evident, so the alternative hypothesis is approved: There is a significant relationship between virtual education and professional development in teachers from UGEL 15, Huarochirí - Lima.



Table 1. Correlation between the variables virtual education and professional development

			Virtual education	Professional development
Spearman's rho	Virtual education	Correlation coefficient	1,000	.943 **
		Next (2-sided)		0.000
		N	80	80
	Professional development	Correlation coefficient	.943 **	1,000
		Next (2-sided)	0.000	
		N	80	80

** . The correlation is significant at the 0.01 level (bilateral).

Specific Hypothesis 1

Table 2 shows the results obtained from Spearman's Rho between the virtual education variable and the planning dimension, where it is verified that there is a positive and strong relationship, since rho =.914**; Since the confidence level is 95% and the probability is p = 0.000 < a = 0.05, a significant relationship is evident, so the alternative hypothesis is approved: There is a significant relationship between virtual education and the planning dimension in teachers from UGEL 15, Huarochirí - Lima.

Table 2. Correlation between the virtual education variables and the planning dimension, virtual resources in the classroom

			Virtual education	Planning dimension
Spearman's rho	Virtual education	Correlation coefficient	1,000	.915 **
		Next (2-sided)		0.000
		N	80	80
	Planning dimension	Correlation coefficient	.915 **	1,000
		Next (2-sided)	0.000	
		N	80	80

** . The correlation is significant at the 0.01 level (bilateral).

Specific Hypothesis 2

Table 3 shows the results obtained from Spearman's Rho between the virtual education variable and the virtual resources dimension in the classroom, where it is verified that there is a positive and strong relationship, since rho =.880**; Since the confidence level is 95% and the probability is p = 0.000 < a = 0.05, a significant relationship is evident, so the alternative hypothesis is approved: There is a significant relationship between virtual education and the virtual resources dimension in teachers of UGEL 15, Huarochirí - Lima.

Table 3. Correlation between the virtual education variables and the virtual resources dimension in the classroom

			Virtual education	Virtual resources dimension
Spearman's rho	Virtual education	Correlation coefficient	1,000	.880 **
		Next (2-sided)		0.000
		N	80	80
	Virtual resources dimension	Correlation coefficient	.880 **	1,000
		Next (2-sided)	0.000	
		N	80	80

** . The correlation is significant at the 0.01 level (bilateral).

Specific Hypothesis 3

Table 4 shows the results obtained from Spearman's Rho between the virtual education variable and the virtual resources dimension in the classroom, where it is verified that there is a positive and strong relationship, since rho =.914**; Since the confidence level is 95% and the probability is p = 0.000 < a = 0.05, a significant relationship is evident, so the alternative hypothesis is approved: There is a significant relationship between virtual education and the virtual resources dimension in teachers of UGEL 15, Huarochirí - Lima.

Table 4. Correlation between the virtual education variables and the time organization dimension

			Virtual education	Time organization dimension
Spearman's rho	Virtual education	Correlation coefficient	1,000	.954 **
		Next (2-sided)		0.000
		N	80	80
	Time organization dimension	Correlation coefficient	.954 **	1,000
		Next (2-sided)	0.000	
		N	80	80

** . The correlation is significant at the 0.01 level (bilateral).

Discussion

According to the results, it was obtained that there is a relationship between the variables virtual education and professional development, these results are in line with what was mentioned by Vilela et al. (2021) who assures that despite the initial challenges of virtual education in times of pandemic, this has meant a great opportunity for important changes to be implemented in the educational area, generating opportunities for



learning and professional development, since students stand out personal-level acquisition such as better time management, resilience, self-discipline, and flexibility; On the teachers' side, virtual education has allowed the development of their digital skills, which represent valuable learning since it allows their development as professionals.

Cueva and Mosquera (2021) affirm that teachers must have a good profile of digital skills in order to efficiently fulfill their functions, this implies that teachers must have extensive knowledge about information and communication technologies. Likewise, Alvarado et al., (2022) evaluated teaching performance in times of Covid-19, taking into account the problems generated by the migration of face-to-face classes to virtual ones, presenting techniques to measure teaching performance, the author affirms that virtual education is an opportunity for teachers to develop professionally. On the other hand, Herrera-Garcia et al. (2021) states that teaching performance is related to the proper management and use that teachers give to technological tools to be able to develop their virtual classes. Concluding that Chimbote teachers in this context demonstrated their performance according to the demands generated by the pedagogical processes using technology, collaborative digital tools and virtuality.

For their part, Chanto and Mora (2021) assure that the incorporation of ICT in the educational field has generated a new impulse in the pedagogical processes since the teacher tries to know and apply tools to facilitate their teaching and learning process.

Likewise, Humanante et al. (2021), mentions that the current type of education expects teachers to be able to function in different learning contexts and to take advantage of all the technological tools available for the teaching, communication and information process. The authors stated that it is important that postgraduate courses are offered that allow the educator to be trained in the development of digital skills, so through their research they presented a curricular design for a master's program that is mediated by these tools digital. According to the results they presented, training or courses on ways to innovate in education, digital literacy and topics related to didactics and methodologies related to digital environments are relevant for the development of the digital capacities of teachers.

For his part, Engeness, I. (2021), the author considers it essential to achieve a digital teaching identification with the aim that they can mediate the development and learning of their students in a meaningful way through the transmission of knowledge, not only of the teaching area if not digital skills, thus allowing the student to be identified with the use of digital tools in their training process. According to the conclusions raised by the author, teachers who participate in the design and learning of digital media and tools, position themselves as active agents within educational practices, likewise the authors affirm that if teachers nurture their digital identity, they will see improvements on the abilities of their students.

On the other hand, Engen (2019) taking into account that for Norwegian policies a professional is competent when he develops his digital skills and applies them throughout the exercise of his profession, however for the author it is necessary to take into account aspects such as the social and cultural to have a constructivist approach, since although educational virtualization means a great advance, the same results cannot be obtained in all places since different factors influence, so this advance must be progressive and adapted to the context where it is being implemented.

On the other hand, Vásquez (2020) in his study analyzed the relationship between teaching performance and digital skills of an educational institution located in Chancay, according to the results, it is concluded that there is a relationship between both variables since a value of 0.587, which indicates that if teachers are trained in digital skills, they will be able to improve their performance and help their students interact with these digital platforms.

Similarly, Vílchez (2020) in his study aimed to determine the relationship between the variables digital skills and professional strengthening of the teachers of an educational institution located in Lurín. The results indicated the existence of a positive relationship since a value of $r=0.579$ was obtained. This indicates that the technological skills possessed by the teacher will allow him to perform optimally in the exercise of his function, so teachers who develop these skills adequately will have a tendency to train on their own initiative, this allows the results in their activities improve.

At a global level, the changes in relation to virtual education and the use of technologies to carry it out have been quite slow, this is explained in many

investigations by the conservative attitude of teachers in relation to the use of information and communication technologies. since, for a group of teachers, the change in their teaching method is tedious, due to this many investigations showed that there is a gap between the availability of technology for education and the real use that is given to these tools, that is, In other words, there are currently different platforms and tools that can be implemented or used in the teaching-learning process, however, these tools are not used correctly and many teachers do not use these means (Cuban, 2001; Jurica and Webb, 2016; Selwyn, 2010; Wachira & Keengwe, 2011).

Studies also highlighted that training for technological innovation in teachers is quite slow, that is, the results of this training are not seen in the short term and it does not offer teachers in training the necessary skills to use these technologies in future professional contexts (Elstad and Christophersen, 2017).

Conclusions

It is concluded that there is a significant relationship between the variables virtual education and professional development in teachers of UGEL 15, this is explained by the opportunities offered by virtual education and the consequent use of technological tools and teacher training for the development of digital skills; which allows the teacher to plan, use virtual resources and make adequate use of their time, consequently these dimensions of professional development also have a significant and strong relationship with virtual education.

Thus, educational institutions must promote the use of technological resources for the teaching-learning process, training their teachers in the development of their digital skills. On the other hand, the study confirms that virtuality improves the quality of life of individuals, since in the educational area it breaks the existing barriers of distance so that students and teachers can access knowledge without this necessarily implying moving from one place to another. Likewise, virtual education involved the development of digital tools that allow the teaching and learning teacher to offer communication, interactivity, and dynamism, through the use of multimedia and content exposure; Thus, virtual education offers a great alternative for professional development, since it allows teachers to develop their digital skills, using

digital tools, resulting in an improvement in the expected results.

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