

Digital Context in University Teaching: A New Role for Teachers

Edgar L. Martínez-Huamán ^{1*} , Juan Solano Gutiérrez², Blanca N. Gutiérrez-Pérez³, Rosario Villar-Cortez⁴

^{1,2} José María Arguedas National University, PERÚ

³ Ciro Alegría National University, PERÚ

⁴ Los Andes Technological University, PERÚ

*Corresponding Author: emartinez@unajma.edu.pe

Citation: Huamán, E. L. M., Gutiérrez, J. S., Perez, B. N. G. and Cortez, R. V. (2025). Digital Context in University Teaching: A New Role for Teachers, *Journal of Cultural Analysis and Social Change*, 10(2), 3035-3041. <https://doi.org/10.1064753/jcasc.v10i2.2046>

Published:

ABSTRACT

The introduction of new technological tools in learning processes has configured a new teaching scenario in academic spaces at universities. The aim of this study was to reveal the significance of the digital context in the new university teaching role. The research had a qualitative approach through the interpretive phenomenological method applied. The technique used was semi-structured interviews applied to professors in engineering programs from Peruvian universities. The methodological procedure was the organization of data through content analysis and emerging validated categories through triangulation process, reflecting the phenomenological reduction. The results showed five categories which were: accelerated evolution of the teaching function, technological impact on new teaching role, new learning scenarios, transition of educational paradigms and adaptable educational systems. So, it is concluded that educational systems are adaptable in the transition of educational paradigms where the professor showed the effectiveness of learning solutions with expeditious interventions and interactions to facilitate distance learning in a digital context where the pandemic has modified the new teaching role.

Keywords: Digital context, university teaching role, new learning scenarios, pedagogical adaptation, adaptable educational system.

INTRODUCTION

The moment we are living in, marked by rapid technological growth and the use of artificial intelligence, is accentuated by the introduction of more objective educational policies, with greater emphasis on adaptation to the digital environment, innovations, and new methodological resources. This has configured a system marked by digital context, which originates a new role for the professor. Teachers are in a transition process in a new educational scenario of uncertain times within which to incorporate the benefits of online learning (Allen et al., 2020).

In the educational field, significant changes were seen throughout the world as a result of problems and difficulties in developing virtual education, facts assumed by governments and universities (Bakhov et al., 2021). This had significant consequences for professors and students. So, it is necessary to implement more solid and effective educational policies to reduce existing gaps and give a new meaning to education (Sanz & López-Luján, 2022). The work performed by the teacher underwent changes from a traditional model to a virtual model with greater use of digital resources in the teaching-learning process, use of educational resources and learning assessments (Kavaric et al., 2023).

In this context, the last two years have witnessed an accelerated digitization process as part of the transformation of society; every phenomenon and process related to society is digitized and uses ICT (Milenkova

et al., 2023). This era has as its main characteristic the advent and presence of digitization, the use of digital devices, and greater participation in distance education. So, living in an era of digital transformation is an objective fact due to the change in the way technology and the world is understood. Thus, there is a greater understanding of the gaps between the domain of digital competence in the world of work and facing the challenges of digitalized work (Oberländer et al., 2020).

This adaptation in the digital context also means transforming education for the future and the educational ecosystem. It is necessary to identify gaps in the educational field on the influence of ICT to reflect on the challenges, limitations and scope of the new trends and opportunities represented by the digital context in education (Said, 2023). Educational institutions, especially universities, should be spaces of pedagogical innovation in which teachers use technological tools, make use of didactic applications, but above all, have digital skills to convert the classroom into learning spaces with the use of virtual technology (Cored Bandrés et al., 2021).

In this special moment, where technology plays an important role, a new role of the professor mediated by technological interventions enters the scene. The demand of the new role of the professor requires greater management of digital skills in the effective use of technologies. Demonstrating digital competence is key in the new educational scenario (Basilotta-Gómez-Pablos, 2022). Therefore, training in professors' digital skills must incorporate knowledge and practices on digital resources, professional commitment, more effective teaching - learning, better forms of evaluation and communication with students (Reisoğlu & Çebi, 2022). Professors are considered to be digitally competent when they develop digital competence, pedagogical competence and have personal characteristics such as being creative, being open to change and using technology effectively (Çebi & Reisoğlu, 2022).

The results of multiple studies on digital context in education should serve for leaders and specialists to understand the needs that professors have to develop their digital skills (Hoang, et al., 2022). Likewise, this relates to the modification in the work system of the professor along with accelerated adaptation in the development of digital skills. This would have caused socio-emotional risks that affect the mental health of the professor, which also makes its study necessary (Velandia Zambrano et al., 2022).

Finally, the accelerated digital context where we live, the experience and pedagogical contributions of distance education during the health emergency, the emerging reality in functions and roles of the professor, as well as the development of skills and abilities with new educational models in students (Bacus, et al., 2022).

The aim of this study was to reveal the significance of the digital context in the new university teaching role.

METHODOLOGY

Approach and Method

The research was developed from a qualitative research perspective through the interpretive phenomenological method. The phenomenological study describes the meaning of experiences lived by several individuals of a concept or a phenomenon. The main characteristic of the interpretive phenomenological study is to describe what all the participants have in common when they experience a phenomenon. The common phenomenon is the digital context that professors live in the new role. Therefore, "what" the teachers experience and "how" they experience it are described, which becomes the essence of the experience (Moustakas, 1994). The technique used was the semi-structured interview applied to professors from engineering programs at a public university in southern Peru. The methodological procedure was the organization of data through content analysis and emerging validated categories through the triangulation process reflecting the phenomenological reduction.

Participants

The participants were 14 professors from the Faculty of Engineering from a Peruvian public university. This group of professors perform functions of teaching, research and university social responsibility. During the semi-structured interview process, the phenomenon of saturation occurred, leaving five key informants. The professors are comprised of two females and three males (Table 1), with more than 12 years of teaching experience, accredited academic degrees, aged between 35 and 50 years, and identified with letters.

Table 1. Identification of key informants

Informant	Academic degree	Gender	Functions
A	Master	Female	Teaching
B	Doctor	Male	Research
C	Doctor	Female	Teaching
D	Master	Male	Research

E	Doctor	Male	Teaching
---	--------	------	----------

Methodological Procedure

In order to understand the common experiences shared by professors about the research phenomenon, the methodological procedure began with the identification of a phenomenon of interest for the study. Then, the researchers recognized and specified the philosophical assumptions of the fact of phenomenology. The data is collected through semi-structured interviews with the professors who have experienced a new digital context that has given rise to a new teaching role. From the data obtained, the significant statements, phrases and quotes that provide an understanding of how the participants experienced the phenomenon are highlighted. Afterwards, groups of meanings, categories, and networks are developed, which is then presented through an integrated network that contains the categories and subcategories. Finally, a description of the essence of the phenomenon was made, called the structure; that is, concentrating individual experiences with a phenomenon to a description of the phenomenon (van Manen, 1990).

Table 2. Emerged categorization on the significance of digital context in the university teaching role

Emergent Categories	units of meaning	rooting
Accelerated evolution of the teaching function	Teacher professional development	28
	Pedagogical adaptation	31
	Enriched professional practice	26
	Digital teaching experience	32
	Teacher socio-emotional welfare	13
Technological impact on new teaching role	Digital transformation	22
	Use of new digital technology	40
	Virtual interaction	20
	Distance learning programs	22
New learning scenarios	Digital learning environment	25
	Flexible and digital model	18
	Emerging pedagogical approaches	18
	Student centered learning	21
Transition of educational paradigms	Educational disruption	22
	Emerging educational models	19
	Connectivism – constructivism	8
Adaptable educational systems	Government educational policies	14
	Educational ecosystem	24
	Professor Training Programs	25

RESULTS

Emerging Categories

The interpretation of categories that emerged during the interviews with the informant professors is presented in Figure 1. It comprehensively shows the categories through the relationships that exist between them and identifies the significance of the digital context and the new role of the professor. There is evidence of a reality that requires further reflection and theorization. This is to understand the educational phenomenon that has led to the irruption of technologies transforming educational practices.

The categories which are part of the digital context and cover the new role of the professor these are as follows: accelerated evolution of the teaching function, technological impact on new teaching role, new learning scenarios, transition of educational paradigms and adaptable educational systems.

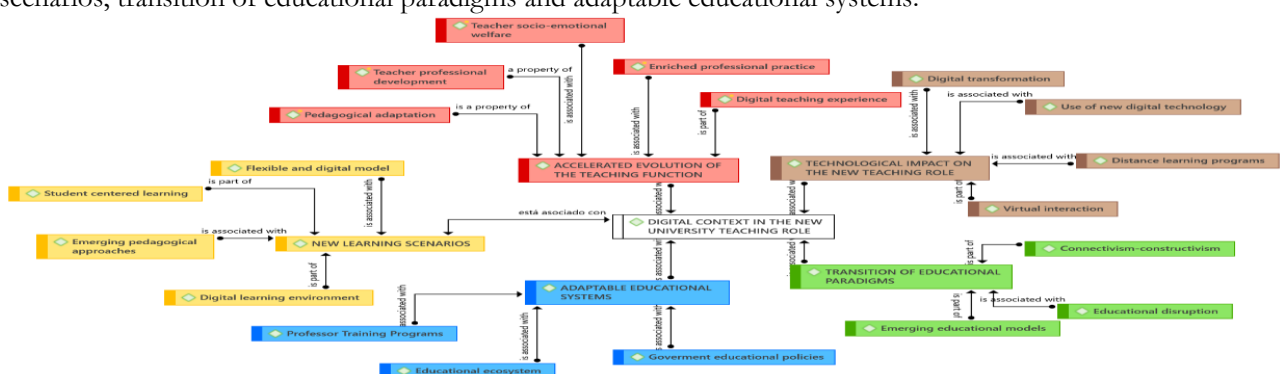


Figure 2. Digital context categories in the new post-COVID university teaching role

Accelerated Evolution of the Teaching Function

The use of information technologies and pedagogical adaptation in virtual environments has transformed the role of the professor. In an increasingly digitized society, there is a remarkable evolution of the role played by the professor. Informant A pointed out: *“my teaching work is not the same as it was two years ago; now I have many technological resources that support my teaching work; digital tools are at our disposal, thanks to them my pedagogical work is enriched”*.

Professors' pedagogical adaptation in the virtual space is fundamental, and traditional forms of face-to-face teaching are being abandoned. In this adaptation process, professors have to be creative and have the ability to use multiple technological resources favorably. There is a digital experience in the professor that deserves spaces for reflection. Informant B clarified: *“I feel that there is greater professional development. My pedagogical practice has been enriched with the use of active methodologies supported by digital resources; my classes are more interactive, and Dynamic. I cannot be the same professor as in 2022 and us to make a 180° turn in our way of teaching and understanding the educational phenomenon”*.

However, one aspect that deserves to be highlighted is the socio-emotional well-being of the professor and scientific and technological progress has left an impact on the psycho-emotional side of the professor that requires treatment. Informant C stated: *“there was a lot of stress in my teaching work from learning to use new resources, from worrying that my classes would be more interactive. Psychological support is needed due to the emotional exhaustion suffered. Many professors have also suffered from illnesses due to exposure and long hours on the computer. Psycho-emotional help is needed due to the exhaustion suffered”*. It is necessary to develop socio-emotional follow-up strategies and support for professors to guarantee their well-being.

Technological Impact on the New Teaching Role

The use of technology by the professor had a great impact and the digital transformation introduced in the educational field configured a new way of understanding education and the role of the professor. Informant B replied: *“I had to quickly learn to use new digital technology. The infinity of courses offered on the internet allowed me to prepare myself well. I was also a student in training courses and I realize the importance of using technology in my teaching work”*.

Virtual interaction is another very important aspect. Informant E stated: *“Using virtual resources freed me from face-to-face administrative work. It has facilitated the professor-student relationship, and they have easy access to digital materials. I feel that there is greater communication with virtual resources”*.

It is necessary to point out that the effective use of technology is a fundamental characteristic for the formation of suitable professors in a new teaching-learning space.

New Learning Scenarios

Considering that educational systems are adaptable, as well as the transition towards new educational paradigms, reality is showing that there are new learning scenarios marked by virtuality. This new learning scenario without a doubt is characterized by virtuality and digitization.

It is important to highlight that the particularity of the new learning scenario is the flexible and digital model. In this regard, informant D asserted: *“we cannot continue with rigid, traditional models with an education designed as before the pandemic. Now the scenario is different, we must dominate the digital environment, the technological tools; our students are also prepared and acquainted with digital tools.”*

International trends indicate that virtual spaces should be used as a new learning scenario. Distance education or hybrid education must be continued. Informant A opined: *“Physical classrooms are no longer the only learning spaces. In this return after the pandemic, we must continue to use virtual spaces; I think there are many more advantages and benefits than just face-to-face education”*.

Therefore, in the new learning scenario, the environment is digital. Pedagogical approaches emerge in this new space, and learning in particular is student-centered. Informant C revealed: *“now we have more ways of teaching using virtual tools, virtual digital platforms, web materials and content, asynchronous classes as a new way of learning, and simulations play an important role”*.

Another characteristic that the new scenario presents is the importance of student-centered learning. Informant C pointed out: *“more than teaching traditional classes, more than using expository content, now we see the importance of the student as the center of learning, we must worry that the student really learns. Our approach is now more focused on the student than on content and on traditional way of evaluating”*.

Transition of Educational Paradigms

There is a global consensus that higher education is undergoing a new educational paradigm as a result of the adaptations made by distance education during the pandemic. This is an opportune moment to deeply reflect on and make criticisms about the nature and function of the university, as well as the professional training system,

the curriculum, teaching forms, and the use of resources and materials in order to propose more flexible and student-centered educational proposals.

It is a reality that the pandemic has shaken the foundations of countries that were not prepared to provide an education outside the walls of the university. It is necessary to incorporate new educational paradigms related to hybrid education, virtual environments, and the use of technological tools. Informant E declared that: *"the educational system is already outdated, constructivism, connectivism, training by competencies, training within the classroom must be rethought. We must propose a new professional training, considering hybrid education, virtual education, distance education"*.

In times of educational disruption, change is a necessity in the educational field and the incorporation of virtual spaces in learning is inevitable, along with an efficient use of ICT and the adequate preparation of professors. Informant A stated: *"We have witnessed abrupt changes in education, there are new paradigms, new ways of teaching; the challenges are enormous. If we are not prepared to teach with these new educational approaches our teaching will be obsolete, our students will be harmed by not assuming new paradigms and educational models"*.

In this period of transition, the obligation to abandon traditional educational paradigms oriented to a much more human formation with concern for the environment, the person as a social subject and the environment is demanded.

Adaptable Educational Systems

Despite the significant consequences of the pandemic, the crisis has been an opportune moment for decision-making regarding the operation and organization of the educational systems in each country. Implementation actions have been developed in all countries with educational policies aimed at providing a response to continuity in the educational service, as well as ensuring the health and safety of all members of the educational community.

The results of the implementation of these educational policies in a scenario of urgency have shown that educational systems are adaptable. Informant B highlighted: *"in Peru, we were not prepared to continue with classes during the pandemic, but the government provided opportunities such as training, educational materials, learning platforms as well as guidelines to develop remote educational work with greater flexibility to adapt to this new form of education"*.

Today, witnessing the development of artificial intelligence and it is necessary to analyze the responses that educational systems have been developing in order to implement the positive and successful experiences of work carried out in universities. Informant C stated: *"there is a lot of positive experience, I think we have learned to get out of the crisis; the continuity of classes can be guaranteed despite the difficulties of carrying out our academic work in a virtual space that is little known to us"*. It is essential to analyze and systematize the responses that the countries have developed according to the context in which each of them finds itself.

Furthermore, it is significant that the countries have allocated economic resources and budget items to guarantee sustainable educational proposals. Informant A stated: *"without economic resources allocated to the education sector, it would not have been possible to support the continuity of the educational service; I think it is very important to continue granting more budget to the educational sector"*. Informant E also declared: *"our educational system has been in a bad way for many years, dozens of years. We continue to drag models from medieval times; the government must initiate educational reforms that respond to current demands; but we must let the government work, demand it and ask it to do its work well, that should be our role as teachers and as citizens, thinking about what benefits society, especially young people who are the future of the country"*.

Finally, it was learned that educational systems are adaptable and those responsible for education – i.e., ministries, specialists, and politicians – have, within their ability, responded adequately in a delicate and urgent moment such as the one that has been experienced. However, it has been observed that in many countries there are problems, shortcomings, and difficulties in offering a quality service in education.

DISCUSSION

The new digital context has redefined the role of the professor. The technological impact and the accelerated evolution of the teaching function in an educational setting is a determining factor in educational systems and in the transition towards new educational models. The overwhelming presence of technology and changes in educational structures must allow the search for creative solutions to successfully face the reality in which we live. The governments must undertake challenges in a future of uncertainty (Chan & Tang, 2023).

It is an opportunity to explore the results of educational policies applied in countries' higher education. The publication of research carried shows a trend towards educational digitization (Küçük-Avci et al., 2022). On the other hand, at global level, it is required to rethink new educational models, relevant curricula, flexible educational systems, and professional training according to the abilities, strengths and interests of the student that leads to training for citizens of the 21st century (UNESCO, 2020). In addition, it is necessary to analyze the gaps in technology knowledge and knowledge of the management of virtual tools that prevented the provision of quality education during (Abdullah et al., 2022).

Likewise, it is important to promote the development of digital skills in professors. The domain of digital competence is especially important in teaching. Global trends are committed to education in virtual spaces, outside the traditional classroom, where technological resources are used to the maximum to provide learning experiences based on the interests of the student. For this, it is required that professors have the competence to function in a digital context. After receiving training on virtual resources, the perception that professors have towards digitization has changed (Reisoğlu, 2022).

The new teaching role, use of active methodologies, more significant educational materials, authentic evaluation, and professor-student relationship, among others, are aspects that mark the digital context university teaching role. From the interrelation of these elements, the education of the future will emerge, which is a reality in many universities.

CONCLUSIONS

It is evident that the incorporation of digital tools in educational processes has transformed teaching practice. Universities, as spaces of higher education and professional training, cannot be oblivious to these changes. University teachers must be better trained and have greater development of digital competencies to face an education characterized by the use of technologies.

The digital educational context has configured a new role of the university teacher where educational systems are not static, but rather adaptable according to the new paradigms that arise with the passing of time. There are new learning scenarios in an uncertain future of educational transition. The role of the teacher is also transformed according to the new educational models that appear modified by technology.

REFERENCES

- Abdullah, S.I.N.W., Arokiyasamy, K., Goh, S.L., & Culas, A.J. (2022). University students' satisfaction and future outlook towards forced remote learning during a global pandemic. *Smart Learning Environments*, 9(15). <https://doi.org/10.1186/s40561-022-00197-8>
- Allen, J., Rowan, L., & Singh, P. (2020). Teaching and teacher education in the time of COVID-19. *Asia-Pacific Journal of Teacher Education*, 48(3), 233-236. <https://doi.org/10.1080/1359866X.2020.1752051>
- Bacus, R., Dayagbil, F., Monacillo, V., & Bustos, R. (2022). Higher Education Institutions' Emergency Remote Teaching amid the Pandemic. *International Journal of Information and Education Technology*, 12(8), 762-771. <http://www.ijiet.org/show-172-2176-1.html>
- Bakhov, I., Opolska, N., Bogus, M., Anishchenko, V., & Biryukova, Y. (2021). Emergency Distance Education in the Conditions of COVID-19 Pandemic: Experience of Ukrainian Universities. *Education Sciences*, 11(7), 364. <https://doi.org/10.3390/educsci11070364>
- Basilotta-Gómez-Pablos, V., Matarranz, M., Casado-Aranda, L.A., & Otto, A. (2022). Teachers' digital competencies in higher education: a systematic literature review, *International Journal of Educational Technology in Higher Education*, 19(1), Art. N°. 8. <http://link.springer.com/journal/volumesAndIssues/41239>
- Çebi, A., & Reisoğlu, İ. (2022). Defining "digitally competent teacher": An examination of pre-service teachers' metaphor. *Journal of Digital Learning in Teacher Education*. <https://doi.org/10.1080/21532974.2022.2098210>
- Chan, E.T., & Tang, M.J. (2023). The Acceptance and Challenges of Online Learning over Covid-19 Pandemic. In Yang, X.S., Sherratt, S., Dey, N., & Joshi, A. (Eds.), *Proceedings of Seventh International Congress on Information and Communication Technology. Lecture Notes in Networks and Systems*, vol 447. https://doi.org/10.1007/978-981-19-1607-6_31
- Cored Bandrés, S., Liesa Orús, M., Vázquez Toledo, S., Latorre Cosculluela, C., & Anzano Oto, S. (2021). Digital Competence of University Teachers of Social and Legal Sciences from a Gender Perspective. *Educ. Sci.*, 11, 806. <https://doi.org/10.3390/educsci11120806>
- Hoang, T.S., Nguyen, M.L.T., Pham, L.N., Nguyen, T.H.T., & Nguyen, L.T. (2022). Digital competence of teachers in universities of education: in the context of the digital transformation of education Vietnam. *International Journal of Information Technology and Education*, 12(10), 1085-1089.
- Kavaric, M., Kavaric, A., & Djokovic, R. (2023). [Challenges in online teaching during the COVID-19 pandemic: Higher education survey in Montenegro](#). *Innovations in Education and Teaching International*, 60(2), 163-173.
- Küçük-Avcı, M. Ş., Murat, T., & Aslıhan, İ. (2022). The Effects of the Covid-19 Pandemic on Distance Education in Higher Education: A Bibliometric Analysis Study. *Croatian Journal of Education*, 24(2), 457-488. <https://cje2.ufzg.hr/ojs/index.php/CJOE/article/view/4534/1096>
- Milenkova, V., Manov, B., & Peicheva, D. (2023). Digitization and Society: Forms of Interaction and Expression. In Yang, X.S., Sherratt, S., Dey, N., & Joshi, A. (Eds.), *Proceedings of Seventh International Congress on Information*

and Communication Technology. *Lecture Notes in Networks and Systems*, vol. 448. https://doi.org/10.1007/978-981-19-1610-6_8

Moustakas, C. (1994). *Phenomenological research methods*. Sage.

Oberländer, M., Beinicke, A., & Bipp, T. (2020). Digital competencies: A review of the literature and applications in the workplace, *Computers & Education*, 146. <https://doi.org/10.1016/j.compedu.2019.103752>

Reisoğlu, İ. (2022). How Does Digital Competence Training Affect Teachers' Professional Development and Activities? *Technology, Knowledge and Learning*, 27, 721–748. <https://doi.org/10.1007/s10758-021-09501-w>

Reisoğlu, İ., & Çebi, A. (2020). How can the digital competences of pre-service teachers be developed? Examining a case study through the lens of DigComp and DigCompEdu. *Computers & Education*, 156. <https://doi.org/10.1016/j.compedu.2020.103940>.

Said, G.R.E. (2023). The Use of ICT in Personalizing Self-learning in Time of Crisis: A Human Computer Interaction Perspective in a Developing Country. In Yang, X.S., Sherratt, S., Dey, N., & Joshi, A. (Eds.), *Proceedings of Seventh International Congress on Information and Communication Technology. Lecture Notes in Networks and Systems*, vol. 447. https://doi.org/10.1007/978-981-19-1607-6_10

Sanz, R., & López-Luján, E. (2022). Educational learning as a consequence of the COVID-19 pandemic. What role should the school play in the new world stage? *Revista Complutense de Educación*, 33(2), 215-223. <https://doi.org/10.5209/rced.73928>

UNESCO (2020). Latin American Education Systems in response to COVID-19: Educational continuity and assessment: analysis from the evidence of the Latin American Laboratory for Assessment of the Quality of Education. *LLECE*, Jul. https://unesdoc.unesco.org/ark:/48223/pf0000374018_eng

Van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy*. State University of New York Press.

Velandia Zambrano, V., Cuevas Rodriguez, G., & Salvador Soler, N. (2022). Quality of life of teachers from Chile and Colombia during the Covid-19 pandemic. *Retos*, 45, 978–985. <https://doi.org/10.47197/retos.v45i0.92277>