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DIGITAL TEACHING COMPETENCIES AND UNIVERSITY SOCIAL RESPONSIBILITY: THE IMPACT OF ICTS AT THE FACULTY OF POLITICAL SCIENCE AND INTERNATIONAL RELATION - UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN

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ABSTRACT: Information and Communication Technologies have revolutionized the way society as a whole approaches tasks across all domains. Education is no exception, and teachers now face the need to distribute knowledge through both face-to-face and remote practices, adapting to the virtual tools that have emerged. This is where the institution's University Social Responsibility (USR) comes into play, as educators strive to gather the necessary tools to define an appropriate space (physical and/or virtual) that fosters the inclusion of students with different types of intelligences and offers didactic possibilities that ensure quality education for all learners. This study aims to identify the factors that contribute to USR by examining the elements that determine the level of knowledge, adaptation, use, and logistics of ICTs as a virtual teaching strategy. Data collection was carried out through a questionnaire in February and March 2024. This quantitative, descriptive, cross-sectional project outlines the preparation teachers have undergone in acquiring and learning digital competencies, as well as their mastery and adaptation to virtual environments for delivering learning units in traditional, non-traditional (remote/ on-line), and hybrid formats.Through a factorial analysis, the collected data was validated, revealing that teachers not only adapted to the new virtual competency environment but also adopted it as a recurring practice in their classroom instruction, achieving best practices that support the institution's current educational offerings.

Keywords: teaching practice, USR, digital competencies, virtual competencies, virtual tools.

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BACKGROUND

Social responsibility began to be introduced into companies, first as Corporate Social Responsibility (CSR), then as Corporate Social Responsibility (CSR), the latter proposing a new pattern of behavior between the company and its social and environmental surroundings, based on new ethical criteria, reciprocity, and interdependence (Pérez, 2009; Zamudio and Figueroa, 2020).

CSR is not a recent term; it originated in the 1950s, when it was demanded of companies in the wake of the global conflicts of the time and began to take on relevance and significance due to ethical issues and harmony with the environment (Flórez, 2023; Zamudio and Figueroa, 2020; Laurencio and Farfán, 2016; Vallaeys, 2009).

From an educational point of view, Pérez (2009) highlights the importance of transferring the concept of social responsibility to universities, thus creating University Social Responsibility (hereinafter USR). Pérez himself points out that, as a result of the economic, cultural, and social changes that took place at the beginning of the 21st century, educational institutions have found it necessary to rethink the role of the university in society.

Currently, higher education is generating changes within university systems by developing strategic advances that impact society, building a commitment to quality teaching, and addressing the needs of the social environment at the national and international levels. This means that education enables students' academic, professional, and personal development by putting their skills into practice. It is therefore recognized that university institutions take on the challenge of training people with a high sense of ethics and social responsibility.

In terms of the social relevance of academic activities for the achievement of RSU, it qualifies and evaluates the relevance and importance of universities and other higher education complexes in relation to the social, economic, political, and environmental needs of the current environment (Pérez, 2009).

Therefore, USR has a significant impact on society by providing educational tools that enhance students' skills and knowledge, improving the quality of services, and putting into

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practice values, equality, ethics, culture, and care for the environment both within and outside the university community.

From the above, the following general objective for this study is derived: *To determine the factors that contribute to establishing USR in the virtual teaching strategy through the degree of knowledge, adaptation, use, and logistics of information and communication technologies among university teachers.*

THEORETICAL REFERENCES

University Social Responsibility (USR)

According to Fracois (2014), the issue of University Social Responsibility in Latin America was developed in the 21st century through the theories and practices of the Chilean Network, Universidad Construye País, and the Latin American Network of Universities, which together launched the Inter-American Initiative on Ethics, Social Capital, and Development.

In the same vein, Chirinos and Pérez (2016) argue that universities commit to providing better quality services to the entire university community, prioritizing initiatives that generate educational, technological, research, and entrepreneurial impacts that benefit society.

From the point of view of Zamudio and Figueroa (2020), University Social Responsibility aims to have a positive impact on society in general and, above all, on students, teachers, and administrators.

Social responsibility is the way in which the institution relates to and impacts society through its policies, strategies, practices, and institutional programs, and the influence that society and the expectations of social actors have on it (OCDE, 2019).

As a precursor to CSR at the Autonomous University of Nuevo León (hereinafter UANL), in 2004, the Volunteer Program linked to the Social Service Department was established, and a year later, University Social Responsibility was officially introduced, giving the institution a focus on ethics, social capital, and development (Gómez and Arango, 2011).

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According to Cantú-Martínez (2013), the vision and mission of the Autonomous University of Nuevo León promote humanistic development, leadership, honesty, and equity. As a result, the institution was recognized in 2012 by the World Confederation of Business, receiving the Certificate of Corporate Social Responsibility (WORLDCOB-CSR: 2011.1), which led the UANL to position itself as the first institution of higher education to promote social responsibility programs.

In this vein, and based on these theoretical references, the requirement for CSR compliance arises from the didactic training of the teaching staff, addressing the need for digital skills in the faculty that instructs future professionals and that, ultimately, would have to influence their education to achieve entities committed to social problems. In this way, the aim is to develop projects and offer solutions that are responsible towards nature and ethical towards people.

In this regard, according to the Instituto Internacional de UNESCO para la Educación Superior en América Latina y el Caribe -IESALC (2008), the following questions arise: How does teacher training respond to University Social Responsibility? And what technological skills must teachers have to respond to University Social Responsibility?

In line with the above, this body mentions that the observable result of a trained teacher is expressed in their own performance, acting proactively, empathizing with their students, and responding to their training needs. That is why Higher Education Institutions (HEIs) must pay special attention to their intellectual capital, as teachers represent the dichotomy of quality education and the prestige of the institution.

Similarly, this organization states that the skills must be those that are necessary, those that lead to successful student training, and that these skills must be reflected in the performance of future professionals in their areas of work, responding to social problems in a responsible, innovative, and highly ethical manner. In this sense, teacher training and technological skills must permeate their students to the extent that they have an impact on their social environment (IESALC, 2008).

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Digital Competencies Teachers

Since the middle of the last century, Information and Communication Technologies (ICT) have burst onto the teaching scene, forcing teachers to reshape their practices. As a result, teachers must develop their creativity and capacity for innovation to be prepared for the changes that lie ahead.

On the other hand, higher education institutions (HEIs) are committed to providing the necessary and sufficient components to channel the common interests of students, teachers, and ICT. López de la Madrid (2007) highlights, in the research "Use of ICT in higher education in Mexico," the importance of the changing roles of both teachers and students within the educational process.

ICTs become a catalyst, allowing the education system to evolve and adapt to the new global context, where teachers must not only provide knowledge, but also find ways to make it a meaningful experience that equips students with the skills to take on challenges responsibly and acquire the necessary tools to propose relevant solutions to the problems they face (Mirete, 2010).

Currently, the teaching staff of any educational institution must embrace the benefits offered by ICT, understand them, and adapt them to integrate them into the curriculum content of their educational programs.

Hernández et al. (2014) argue that, in Mexico, the introduction of ICT in the school environment has manifested itself in different ways, from the provision of technological infrastructure, through teacher training and the promotion of the use of technology in the classroom, to its implementation in interactive activities within the educational process to achieve meaningful learning.

Similarly, Vesga, L. and Vesga, J. (2012) establish in their study "Teachers facing the incorporation of ICT in the school setting" that the challenges faced by teachers in implementing the use of technologies, as well as their literacy, are what denote the obligation of educational institutions to make a social and labor commitment to achieve such literacy. In addition to the commitment of teachers to adapt to the acceleration of their environment,

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the aim is to achieve the efficient implementation of new technologies in the classroom, resulting in a well-designed pedagogical process for students.

Based on the background information presented and with the intention of determining the level of commitment of teachers to the institution's RSU, seven theoretical dimensions have been defined, which guide this research:

- Digital skills (which consider the teacher's perspective on the use of virtual tools in searching for information on computer networks).
- Communication and collaboration (this includes the use of ICT in the type of communication and collaboration tools that teachers have with their peers and/or students).
- Creation of digital content (this section considers the teacher's ability to create virtual teaching materials for their classroom work).
- Security (this section analyzes the teacher's knowledge of how to navigate the web safely).
- Problem solving (this section seeks to record the teacher's knowledge of how to solve hardware and software problems on their computers).
- Infrastructure conditions (this section analyzes the infrastructure available to the teacher to carry out their educational activities).
- Experience in hybrid and/or non-school-based modalities (this section seeks to understand the teacher's experience when non-school-based or mixed modalities were implemented in the UANL Digital Strategy (2022) due to the COVID-19 pandemic).

METHODOLOGY

For the study, a questionnaire-type instrument was applied from February 7 to March 2, 2024, using the MICROSOFT FORMS virtual tool, which allowed the information collected to be compared using a quantitative methodology, with a descriptive approach and a cross-sectional scope. The sequence of the analysis carried out in the development of the study is mentioned below.

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- Sample calculation
- Construct generation
- Normality tests
- Factor analysis
- Reliability analysis (Cronbach's alpha)
- Correlations between factors

At this point, it should be noted that, as confirmation of the findings of this quantitative analysis, the results section includes some census-type data collected from April 27 to 30, 2020, to develop a diagnosis that would reveal the degree of use of digital tools mastered by teachers at the start of online courses resulting from the COVID-19 health emergency (Paz and Segoviano, 2020).

Our study universe focuses on the Faculty of Political Science and International Relations, where the teaching population for the January-June 2024 semester was 192 teachers, so the following sample size formula was used (Mendenhall et al., 2017):

The calculation is performed as follows:

$$n = \frac{(\mathrm{N} * Z^2) * p * q}{d^2 * (\mathrm{N} - 1) + (Z^2) * p * q}$$

Where:

N = Total population

Z = Confidence level equal to 95% (therefore, Z=1.96)

p = Expected proportion (in this case 50% = 0.50, as we have no idea of the proportion)

q = Proportion of 1 – p, (in this case 1 – 0.50 = 0.50)

d = Desired precision (margin of error of 8% by approximation)

Substituting operators, we have:

$$n = \frac{(192 * 1.96^2) * 0.5 * 0.5}{0.08^2 * (192 - 1) + (1.96^2) * 0.5 * 0.5}$$

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$$n = \frac{184.3968}{1.2224 \ + 0.96.4}$$

From the above, a sample size of 84,4772 surveys (»85) is obtained.

This quantitative descriptive-cross-sectional study establishes a pattern of behavior in some variables that explain, from the teaching perspective, the level of learning and the adaptation of digital skills in virtual environments for the delivery of learning units in school, non-school, and mixed modalities.

In the results section, the findings are defined with the necessary contrasts to explain the phenomenon. Before this analysis, the reliability and normality tests of the data found are defined.

RESULTS

Table 1

Teaching staff

PTC	PMT	PXH	TOTAL
84	3	105	192
43.75%	1.56%	54.69%	100%

Note. Prepared internally using human resources data from the agency.

The teaching staff of the agency is composed as shown in Table 1, which shows the number of teachers by type of contract. It can be seen that the majority (54.69%) are teachers with hourly contracts. Finally, of the 85 teachers who were to be surveyed according to the sample size calculation, 91 teachers were surveyed out of a total of 192, giving a coverage of 47.40%.

The original instrument consisted of seven dimensions covering a structure of 38 items, most of which were designed with a Likert scale (1-5), in some cases with dichotomous and multiple-choice responses for greater understanding and interpretation of the phenomenon.

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With the intention of reducing the number of dimensions established by the theory, an exploratory factor analysis was performed to define how the aforementioned dimensions would be grouped, establishing that they would not be grouped within a theoretical factor other than the one proposed or that they would not be grouped in a factor that had at least three items. In addition, it was decided to eliminate those items that were not grouped into a factor with factor loadings greater than 0.5. The result can be seen in Table 2.

Table 2

Teachers' digital knowledge and skills

Factors	Quantity of Reagents	Example of reagent
Communication and collaboration	3	Do you collaborate with other peers in virtual repositories? Do you work collaboratively with other teachers and students in virtual spaces? Do you use technological tools to communicate with other peers and/or students?
Infrastructure conditions	5	Do you have the technological resources to teach classes online? Do you have adequate physical space in your home to teach classes online? Are you familiar with various online techniques for teaching classes?
Experience in hybrid and/or non-school-based learning	4	Did students submit their assignments with greater adherence to performance criteria than in the face-to-face modality? Were students consistent in their participation during class (whether in chat, microphone, submission of class activities, etc.)?

Note. Own elaboration.

In the normality tests (Table 3), after observing the results and given that the sample size is greater than 50 (Mendenhall et al., 2017), the Kolmogorov-Smirnov test was considered. Likewise, it was observed that the variables "do not follow a normal distribution since the p-value is less than α (0.05), therefore, the null hypothesis of *normality* is rejected.

Table 3

Normality tests

	Kolmogorov-Smirnov*		
Reactive	Statistician	gl	Sig.
(8-B) Uses various digital tools and media for interaction between teachers and students.	0.244	91	.000
(9-B) Works collaboratively with other teachers and students in digital spaces.	0.242	91	.000
(10-B) Respects the principles of netiquette in digital communication.	0.339	91	.000
(28-G) Students were attentive to the posts made by the teacher during the week (as evidenced by reactions, comments, etc.)	0.279	91	.000
(29-G) Students submitted their assignments with greater adherence to performance criteria than in the face-to-face modality.	0.294	91	.000
(30-G) Students participated consistently during class (whether in chat, microphone, submission of class activities, etc.).	0.231	91	.000
(34-G) In general, students performed well academically.	0.286	91	.000
(21-F) Has the technological resources (computer, internet) to teach or manage classes in a non-school or mixed modality.	0.483	91	.000
(22-F) Has the physical resources (space) to teach or manage classes in a non-school modality.	0.413	91	.000
(23-F) Has digitized class books, or they are freely accessible on various platforms.	0.291	91	.000
(24-F) I have the skills to design resources, assessment tools, and learning activities in virtual environments.	0.375	91	.000
(25-F) I am familiar with various face-to-face and virtual techniques and strategies for developing classes.	0.346	91	.000
*Corrección de la significación de Lilliefors			

Note. Own elaboration.

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In the end, the solution consisted of 12 items, which are presented in Table 4. The total alpha for the analysis was α=.858. Bartlett's sphericity test was significant (524.36, gl= 66, p< .001) (Hair et al., 1999), and the Kaiser-Meyer-Olkin sample size adequacy indicator (Mendenhall, et al., 2017) was adequate (KMO=.850). Three factors were defined that explain 69.55% of the total variance. The factors are presented with loadings greater than .60 and their communalities >.35.

Table 4

Factor weights for exploratory factor analysis

	Infrastructure conditions	Experience in NE mode	Communication and collaboration
Range	1-5	1-5	1-5
Mean	4.46	3.74	4.07
Standard deviation	.7247	.7288	.7163
Bias	-1.94	-.344	-.622
Explained variance	41.25	16.71	11.60
Cronbach's alpha	.886	.853	.692
Reactive		Factor Load	
Has the physical resources (space) to teach or manage classes in a non-school setting.	**.856**		
Has the technological resources (computer, internet) to teach or manage classes in a non-school or blended setting.	**.846**		
Has the skills to design resources, assessment tools, and learning activities in virtual environments.	**.822**		
Knows various face-to-face and virtual techniques and strategies for developing classes.	**.752**		
Has digitized class books, or they are freely accessible on various platforms.	**.703**		
Students participated consistently during class (whether in chat, microphone, class activity submissions, etc.).		**.885**	

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In general, students performed well academically.	**.809**	
Students submitted their assignments with greater adherence to performance criteria than in the face-to-face modality.	**.805**	
Students kept up with the posts made by the teacher during the week (as evidenced by reactions, comments, etc.).	**.752**	
Uses various digital tools and media for interaction between teachers and students.		**.787**
Works collaboratively with other teachers and students in digital spaces.		**.773**
Respects the principles of netiquette in digital communication.		**.744**

Note. Own elaboration.

The resulting items, included in Table 4, show adequate internal consistency (α=.858), and the factorial analysis has a good explained variance (69.55% of the total phenomenon), which defines the high integrity of the data.

Regarding the degree of relationship between the factors determined by the analysis,

Table 5 shows the relationships between the factors, determined using a Pearson correlation test (Anderson et al., 2019), for a better understanding of the phenomenon. In this table, moderate significant values (Anderson et al., 2019) of .441 and .390 (with an approximate coefficient of determination of 19 and 15 percent, respectively) can be observed between the factors of "Infrastructure" compared to "NE Experience" and "Communication," which translates into a certain degree of importance for teachers to have adequate and sufficient technological equipment to gain experience in teaching virtual classes and to be able to maintain adequate communication with the rest of the academic community of the faculty and the institution. This contrasts with the relationship between "NE Experience" and

"Communication," which has a correlation of .173 and a coefficient of determination of just three percent.

Table 5

Correlations between factors

Factor		1	2	3
1. Infrastructure	Pearson correlation	-		
	Sig. (two-tailed)			
2. NE experience	Pearson correlation	.441**	-	
	Sig. (two-tailed)	.000		
3. Communication	Pearson correlation	.390**	0.173	-
	Sig. (two-tailed)	.000	0.101	

**. The correlation is significant at the 0.01 level (two-tailed).

Note. Own elaboration.

As mentioned in the methodology section and by way of contrast to the present study, Tables 6, 7, and 8 below present the census-type data collected from April 27 to 30, 2020 (Paz and Segoviano, 2020), which correspond to the responses of 197 teachers, representing 97% of the total population of 212 teachers registered at the faculty in the January–June 2020 semester, including undergraduate, graduate, and language teachers.

Table 6

Infrastructure

At home, I have:	YES		NO	
	Fr.	(%)	Fr.	(%)
Desktop computer	81	41.12	**116**	**58.88**
Laptop	**184**	**93.40**	13	6.60
Tablet or iPad	84	42.64	**113**	**57.36**
Internet service with average bandwidth	193	97.97	**4**	**2.03**
Home printer	103	52.28	**94**	**47.72**
Adequate physical space	**173**	**87.82**	24	12.18
Necessary furniture such as a desk, chair, filing cabinet, etc.	**176**	**89.34**	21	10.66

Note. Relevant data are marked in bold. Taken from Paz and Segoviano (2020).

In terms of the technological infrastructure (furniture and equipment) available in teachers' homes, the 2020 study found that most teachers reported having a laptop (93.40%), which contrasts with the absence of desktop computers (58.88%) in the home (Table 6). This indicates that, in terms of basic equipment for teaching virtual classes, they were adequately equipped.

In the same Table 6, the rest of the items show favorable frequencies of the hardware equipment conditions that teachers had. These conditions are in line with the results of this study, which highlights the data found in Table 4 for the factor “infrastructure conditions,” whose mean value was 4.46, with an explained variance of 41.25% and a SD = .7247, which determines a range of 3.73-5.00 (on a scale of 1-5, where 1 represents “strongly disagree” and 5 “strongly agree”), reflecting a favorable perception among teachers regarding having the necessary digital equipment (hardware and software), having the necessary digital skills to design their own virtual education resources, as well as knowing various techniques for developing classes and fully complying with the requirements of the face-to-face, blended, and virtual programs that the faculty and the university itself are implementing in their educational offerings.

Table 7

Teachers' perception of their competence in online courses

Perception of your competence in distance learning	SI		NO	
	Fr.	(%)	Fr.	(%)
This is my first experience teaching an online course	81	41.1	**116**	58.9
I feel competent to implement and lead a course	**185**	93.9	12	6.1
I am experiencing difficulties, but I will be able to complete the courses	75	38.1	**122**	61.9
I am confident that I will complete the courses without any problems	**189**	95.9	8	04.1
I still require training	70	35.5	**127**	64.5
I am seriously considering resigning from my groups	2	01.0	**195**	99.0

Note. Relevant data are marked in bold. Taken from Paz and Segoviano (2020).

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In the case of the experience faced by teachers in 2020 in terms of coexistence and the dissemination of knowledge through digital media, synchrony, and distant geographical spaces, teachers report having developed a great capacity for resilience and adaptation, since according to Table 7, even though 58.9% (116) of teachers reported that this was their first experience teaching online courses, this contrasts with the 93.9% (185) of teachers who feel competent to implement and lead a course in such circumstances. Only two teachers responded that they considered resigning from their groups due to the prevailing conditions at the time. And only seventy (35.5%) teachers reported needing training in this modality.

In this regard, it can be added that, among the factors determined in this study, teachers report having sufficient experience in non-school-based teaching, given that the mean value for this factor is 3.74 with an explained variance of 16.71% and a SD = .7288, which determines a range of 3.01-4. 46 in the teachers' perception, according to a Likert scale from 1 to 5, where 1 referred to non-active or non-receptive behavior by students and 5 referred to good behavior, adequate academic performance, and sufficient motivation in the virtual sessions they had the opportunity to experience during that period.

Table 8

Communication and collaboration

I manage communication with students and teachers through:	Media	DE	Frequency				
			1 Nothing	2 A little	3 Some	4 A lot	5 Quite a lot
Teams	4.37	0.856	5	5	16	58	113
Nexus	2.62	2.645	86	11	34	24	42
Territorium	1.49	1.323	161	8	6	11	11
WhatsApp	3.62	2.083	29	16	33	41	78
Zoom	1.42	1.010	160	13	12	3	9
Google Classroom	1.26	.624	171	12	6	4	4
Email	3.83	1.654	16	16	38	43	84

Note. Relevant data are marked in bold. Taken from Paz and Segoviano (2020).

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When discussing communication and collaboration between teachers and their students and peers during the 2020 pandemic, Table 8 explains how teachers perceived their mastery of the platforms used for this purpose. Microsoft's TEAMS platform was the one most frequently used by teachers to impart knowledge, with an average of 4.37 on a scale of 1 to 5, ranging from not using the platform (1) to very continuous use (5) and a SD = .856, which falls within the “very” and “quite” scales (with 171 teachers). This was followed by an email with an average of 3.83 and a SD = 1.654, confirming the use of a widely used means of communication since the emergence of communication through computer networks, with 165 teachers on the “somewhat,” “very,” and “quite” scales due to the standard deviation presented. In contrast, Google Classroom is the least used platform by teachers, with an average of only 1.26 and a SD = .624, which indicates low use by teachers at the time, as 183 teachers defined it as the least used communication platform.

As a continuation of this collaboration and communication activity by teachers, the present study establishes that the factor defined by the factor analysis in Table 4 has a mean of 4.07, an explained variance value of 11.60%, and a SD = .7163. This relates to teachers' perception of having the knowledge of the virtual communication tools necessary for remote work with young people and remote collaboration with other teachers in their same faculty or in interdisciplinary spaces.

DISCUSSIONS AND CONCLUSIONS

The results highlight teachers' positive appreciation of the opportunities provided for personal and professional development. This is highly relevant, as it is a characteristic that distinguishes any institution focused on achieving results while always prioritizing the well-being of its community.

In general, the factors identified (infrastructure conditions, experience in non-school settings, and communication and collaboration) demonstrate the consistency with which teachers at the institution recognize an adequate level of knowledge about ICT. They also reflect the adaptation they have made of their personal hardware and software tools, as well as the use

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of ICT as a virtual teaching strategy for teaching, communication, and collaboration with their peers and the academic staff in general.

In the same vein, Gómez et al. (2025, p. 225) conducted a systematic review of research carried out in the context of virtual education in Latin America. In their analysis, they posed three research questions, one of which was: *What are the success stories documented in the literature on the implementation of technological platforms in virtual education that promote university social responsibility?* In this regard, seven studies were identified that responded to this question, whose common denominator was that the inclusion of ICT in the educational field is taking on a leading role. The studies reviewed demonstrate the transformative potential of virtual education in social inclusion, which is reflected in active and conscious USR. However, the same authors point out that there is still little documentation on this subject.

This contributes to the present study, since, by using ICT as a teaching strategy, teachers may perceive them not only as infrastructure provided by the educational institution, but also as tools that support students' adaptation to the new globalized world.

Teachers are responsible for transmitting knowledge, and currently, in their new role as facilitators, they are comprehensive educators. Teachers must assume ethical compliance in their practice and be capable of guaranteeing their decision-making, free of prejudice, contributing ideas, flexible, committed to their professional work, and open to changes and adjustments.

As can be seen, teachers' technological skills and ability to adapt to the efficient use of digital resources will lay the foundations for students to consolidate their absorption of information, resulting in meaningful learning for the learner.

However, in the article *"Social exclusion and Information and Communication Technologies: a statistical view of their relationship in higher education"* by Astudillo et al. (2020), conducted in Mexico and Costa Rica, it is clear that the inclusion of technological tools in education does not necessarily comply with the RSU, as it excludes students with weak technological skills, as well as those with insufficient economic resources.

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In the case of this study, the objective of identifying the factors that determine the degree of knowledge, adaptation, use, and logistics of ICT as a virtual teaching strategy has been achieved. The results show that the faculty members are academics with a high capacity for assimilation in the incorporation, adaptation, and use of ICT. This shows that, despite the difficulties encountered, they are people committed to the SDGs, insofar as they take on the challenge of fulfilling their role as promoters of knowledge and responsible for training professionals who are aware of and committed to their environment, society, and nature. Likewise, the study has revealed significant trends, as well as limitations and areas of opportunity for future research. One of these is that, despite having detected that the widespread use of tools such as Zoom, Google Meet, Microsoft Teams, and some social media platforms in the educational process has a direct correlation with USR, this correlation remains diffuse, with limited benefits and no defined metrics.

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https://doi.org/10.47058/joa13.2

REFERENCES

Anderson, D., Sweeney, D., Williams, T., Camm, J., and Cochran, J. (2019). *Estadística para negocios y economía*. 3a ed. CENGAGE.

Astudillo, M. P., Chévez F., and Oviedo Y. (2020). La exclusión social y las Tecnologías de la Información y la Comunicación: una visión estadística de su relación en la educación superior. *LiminaR. Estudios Sociales Y Humanísticos*, *18*(1) 177-193. http://dx.doi.org/10.29043/liminar.v18i1.721

Cantú-Martínez, P. (2013). Las instituciones de educación superior y la responsabilidad social en el marco de la sustentabilidad. *Revista Electrónica Eucare, 17*(3), 41-55. https://www.scielo.sa.cr/scielo.php?script=sci_arttext&pid=S1409-42582013000300003

Chirinos, Y., and Pérez, C. (2016). La Responsabilidad Social Universitaria: emprendimiento sostenible como impacto de intervención en comunidades vulnerables. *Revista EAN*, (81), 91-110. https://doi.org/10.21158/01208160.n81.2016.1560

Flórez, M. (February 10, 2023). *Antecedentes de la responsabilidad social empresarial*. Red de Árboles. https://www.reddearboles.org/noticias/nwarticle/444/3/Antecedentes-de-la-responsabilidad-social-empresarial-una-larga-historia

Fracois, V. (2014). La responsabilidad social universitaria un nuevo modelo universitario contra la mercantilización. *Revista Iberoamericana de Educación Superior, V*(12), 105-117. https://www.redalyc.org/pdf/2991/299129977006.pdf

Gómez, J. F., Chamoli, A. W., Balcázar, J. E. J., and Espinoza, J. C. (2025). El uso de las plataformas digitales en la promoción de la Responsabilidad Social Universitaria en la Educación Virtual. *Revista Aula Virtual*, *6*(13) 220-236. https://ve.scielo.org/pdf/auvir/v6n13/2665-0398-auvir-6-13-e431.pdf

Gómez, C., and Arango, X. (May 17-20, 2011). *Responsabilidad social en las organizaciones públicas: la omisión al cumplimiento de responsabilidades de los servicios públicos en México, el caso de los legisladores*. XV Congreso Internacional de la Académica de Ciencias Administrativas. Boca del Rio, Veracruz, México. http://eprints.uanl.mx/6145/1/1.%20ACACIA-2011.pdf

Hair, J., Anderson, R., Tatham, R., and Black, W. (1999). *Análisis Multivariante*. 5a ed. Prentice Hall Iberia.

Hernández, L., Acevedo, J., Martínez, C., and Cruz, B. (November 12-14, 2014). *El uso de las TIC en el aula: un análisis en términos de efectividad y eficiencia*. Congreso Iberoamericano de Ciencia, Tecnología, Innovación y Educación, Buenos Aires, Argentina.

Instituto Internacional de UNESCO para la Educación Superior en América Latina y el Caribe - IESALC. (2008). El movimiento de responsabilidad social de la universidad: una comprensión novedosa de la misión universitaria. *Revista Educación Superior y Sociedad, 13*(2). https://www.iesalc.unesco.org/ess/index.php/ess3/issue/download/37/38

Laurencio, A., and Farfán, P. (2016). La innovación educativa en el ámbito de la responsabilidad social universitaria. *Revista Cubana Educación Superior, 35*(2), 16-34. https://revistas.uh.cu/rces/article/view/3557?articlesBySimilarityPage=30

López de la Madrid, M. C. (2007). Uso de las TIC en la educación superior de México. *Un estudio de caso. Apertura, 7(*7), 63-81. https://www.redalyc.org/pdf/688/68800706.pdf

Mendenhall, W., Bañuelos, A., Beaver, R., Beaver, B., Velásquez, J., and Pérez-Tejada, H. (2017). *Probabilidad y estadística para las ciencias sociales del comportamiento y la salud*. 1a ed. Cengage Learning.

Mirete, A. B., (2010). Formación docente en TIC's. ¿están los docentes preparados para la revolución tic? *International Journal of Developmental and Educational Psychology, 4*(1), 35-44. https://www.redalyc.org/pdf/3498/349832327003.pdf

Organización para la Cooperación y el Desarrollo Económicos - OCDE. (2019). *El trabajo de la OCDE sobre educación y competencias*. https://www.cna.gov.co/1779/articles-401134_documento.pdf

Paz, L. A., and Segoviano, J. (2020). *La atención en línea: perspectiva docente ante la contingencia del COVID-19*. VIII Congreso Iberoamericano de Investigación sobre Gobernanza Universitaria. Repositorio Institucional - Universidad Santo Tomás. Colombia. https://repository.usta.edu.co/items/ac5e5ba4-3973-4737-97e4-1b78fa49dce4

Pérez, F. (2009). *La Responsabilidad Social Universitaria (RSU)*. Consejo Social de la Universidad de Huelva.

Universidad Autónoma de Nuevo León – UANL. (2022). *Modelo de Educación Digital.* https://ded.uanl.mx/documentos/Modelo_de_Educacion_Digital_UANL.pdf

Vallaeys, F., de la Cruz, C., and Sasia, P. (2009). *Responsabilidad Social Universitaria: Manual de primeros pasos*. Banco Interamericano de Desarrollo. Edit. McGraw Hill Interamericana. https://publications.iadb.org/publications/spanish/document/Responsabilidad-social-universitaria-Manual-de-primeros-pasos.pdf

Vesga, L., and Vesga, J. (2012). Los docentes frente a la incorporación de las TIC en el escenario escolar. *Revista Historia Educación Latinoamericana, 14*(19), 247-263. https://www.redalyc.org/pdf/869/86926976012.pdf

Zamudio, F., and Figueroa, R. (2020). Génesis de la responsabilidad social y su impacto en las instituciones de educación superior de México. *Revista Espacios, 41*(4). https://www.revistaespacios.com/a20v41n04/20410422.html

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