

Artículo Original / Original Article

La nueva realidad de la educación: estrategias de enseñanza/aprendizaje para docentes durante la cuarentena del COVID-19 en la región de Extremadura. Recursos y dificultades

The new reality in education: Teaching/learning strategies for teachers during the COVID-19 pandemic lockdown in Extremadura. Resources and difficulties

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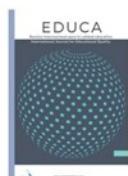
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Resumen

La pandemia provocó un cambio radical en la educación, obligando a profesores y alumnos a adaptarse rápidamente a la enseñanza en línea. Esto implicó una dependencia de dispositivos electrónicos y la necesidad de que los docentes, con o sin experiencia tecnológica previa, se adaptaran a nuevos métodos. El objetivo de esta investigación se centró en la evaluación de las plataformas utilizadas, la situación del profesorado y alumnado, los recursos disponibles y el impacto en la enseñanza del inglés como lengua extranjera. También se analizó la percepción del cuerpo docente de primaria sobre su desempeño a distancia y su preparación para cambios en los métodos de enseñanza. Los resultados, basados en un cuestionario electrónico, revelan que el profesorado experimentó una mayor carga de trabajo y poca experiencia con las TIC, aunque la mayoría se adaptó bien y percibió resultados de aprendizaje positivos.

Palabras clave: educación primaria, E-learning, TIC, enseñanza, pandemia.

Abstract

The pandemic drastically altered the educational landscape, forcing both teachers and students into home confinement and relying on electronic devices to continue lessons. Initially thought to be temporary, the shift to remote learning extended indefinitely. This sudden change required teachers to adapt to technology, with varying levels of experience. This research aimed to evaluate the platforms used, the general situation of students, assessment methods, resources, and the specific context of teaching English as a Foreign Language. It also explored primary school teachers' self-awareness regarding their performance as distance educators and their readiness for sudden changes in teaching methods. Data were gathered through an electronic questionnaire. Results indicate that teachers faced a higher workload compared to regular classes, with most having little prior experience with ICTs, feeling only temporarily prepared. However, the majority viewed learning outcomes as positive and felt they adapted well to the new circumstances.

Keywords: elementary education, E-learning, ICT, Teaching, pandemic.



Introduction

Primary schoolteachers were challenged during the COVID-19 pandemic and quarantine. With schools closed and children at home, they had to adapt in a matter of days to a whole new situation that meant reinventing their methods and procedures for distance education. Every student is different, and the school is a common ground where they can all have similar opportunities and experiences (Williamson et al., 2020). In their homes, not all students have the same resources, schedules, support, or conditions.. In addition, teachers have individual characteristics and resources that expose them to a number of difficulties, from their capacitation in Information and Communication Technology (ICTs) and ability in creating/finding resources for this particular predicament to the lack of a clear and unanimous procedure (Candia García, 2016; Cózar-Gutiérrez et al., 2016; Zempoalteca Durán et al., 2017). ICTs has become a very useful tool that intervenes in multiple social, domestic, and work contexts (Anwar et al., 2019; Bayhan & Karaca, 2020). Information technologies have transformed structures that were replicated years ago, making teleworking and instant communication possible (Nicol et al., 2018). In the field of education, they have made it possible for students to become more involved in the teaching process through various devices that make this possible (Calabuig-Moreno et al., 2020; Granados & Jaramillo, 2019). In addition, they have become fundamental processes during the COVID-19 pandemic.

The Spanish education system is made up of three main blocks: infant education, which is compulsory from 3 to 6 years of age, and primary education, which covers education from 6 to 12 years of age, through six academic years divided into three two-year cycles. Finally, Compulsory Secondary Education (CSE), from 12 to 16 years of age, completes the compulsory nature of education.

ICT in education

In this day and age, teachers need to be prepared to offer their students learning opportunities based on ICT (Corbella, 2008; Fernández et al., 2017), and many programs are being developed around the world to facilitate the tasks in education (Bravo et al., 2018; Siddiq et al., 2016), either by private or government institutions, independent creators and companies, and many educators, developing and producing Open Educational Resources (OER) such as curriculum maps, course materials, textbooks, streaming videos, multimedia applications,



podcasts, and any other materials that have been designed for use in teaching and learning (UNESCO, 2023), and free educational material to be used by teachers and students.

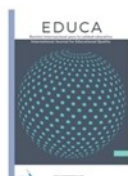
It is common knowledge that ICT provides access to information in real time, so the possibility of building knowledge is open to anyone who has the necessary digital competence (Perrotta et al., 2021). According to Sánchez (Sánchez, 2000), ICT is the tool used to process, store, synthesize, recover, and present information in many forms. These tools constitute new platforms and channels for shaping, registering, storing and distributing information. ICT is a term used to define a variety of technologies, services, and applications between different physical and digital platforms.

Digital technologies are changing drastically all the elements of the education context (Blanco & Amigo, 2016), and teachers need to be up-to-date with methods, tools, platforms, and other resources to improve their teaching experience and enhance their performance. In addition, Gunawardena (Gunawardena, 2003) referred to the usefulness of distance learning in providing information resources to remote geographic areas, destroying frontiers, and providing free access to knowledge in a way that would be almost impossible to replicate by any other means. Additionally, it facilitates the acquisition of knowledge, improves motivation, promotes autonomous learning, expands knowledge, facilitates participatory methodologies, and develops distant or asynchronous teaching (Miralles Martinez et al., 2019; Montes & Vallejo, 2016).

Digital competence of teachers

In 2006, the council of Europe defined digital competence as being of the utmost importance, defining as follows: "*Digital competence involves the confident and critical use of Information Society Technologies (IST) for work, leisure, and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present, and exchange information, and to communicate and participate in collaborative networks via the Internet*" (The European parliament and the council of the european union, 2006).

In Royal Decree 1631/2006, on December 29, on page 688, the Ministry of Education and Science of Spain defined digital competence as the possession of abilities to search, obtain, process, and communicate information, and to transform it into knowledge (Real Decreto 1631/2006, de 29 de diciembre, 2006). One must emphasize that the mere act of accessing or



making available information does not create knowledge. It is necessary to correctly organize, synthesize, and analyze information using reason, that is, understand the information and integrate it into processes prior to knowledge (Fan et al., 2016).

Measures and educational context in Extremadura during COVID-19

In Extremadura, Spain, it was decided on March 12, 2020, to suspend teaching activities from the 16th of the same month, indicating that teachers should continue to present themselves at educational centers (Instrucción conjunta de la Secretaría General y de la Secretaría General de Educación de la Consejería de Educación y Empleo de la Junta de Extremadura, sobre organización y funcionamiento de los centros educativos durante el periodo de suspensión de actividades educativas presenciales, acordado en reunión extraordinaria del Consejo de Gobierno de la Junta de Extremadura, de fecha 12 de marzo de 2020, con el objetivo de frenar la expansión del coronavirus (COVID-19), 2020), while students stayed at home according to the confinement guidelines. In a short time, this regulation was changed and schools were closed (Modificación parcial para frenar la expansión del COVID-19, 2020). The consecutive prorogations of the state of alarm and confinement transformed a situation that was expected to be of short duration, about two weeks, into a prolonged and difficult-to-resolve period. This situation made teaching much more complicated, since this decision was made suddenly to stop the spread of the virus, causing teachers to have to adapt their educational content and methodology in a matter of days. The institutions responsible for education in Extremadura launched proposals to improve the situation of both students and teachers, with the aim of improving the quality of education by increasing available technological resources, in addition to providing various methodological guides to help teachers adapt to this complicated situation. Although the responsible entities and educational centers have endeavored to provide all the support, in the end, the teachers are left to their ability to adapt, to the support of colleagues, and to their own resources.

For the aforementioned reasons, we believe it to be important in this study, which we hope will shed light on the methods, resources, and solutions used by primary education teachers in Extremadura.

The objective of this investigation was to account for the different platforms used, as well as the overall situation of the students, evaluation, resources, and the more specific



situation in teaching English as a Foreign Language (EFL), in addition to analyzing the self-awareness of primary school educators about their performance as distance-learning teachers, comparing solutions and competences between age ranges, years of experience, and education centers, and analyzing whether teachers are prepared for a sudden change in teaching methods and procedures.

Materials and Methods

This study is based on a quantitative methodology, as the experimental hypotheses have no place in this investigation because we do not intend to verify any studies of intentional changes. However, what we pursue with our research is to determine or explain a situation that we are not aware of, in this case, the strategies and difficulties of teachers during the Covid-19 lockdown.

Sample

A total of 100 teachers were included in this study. The sample size was determined using a non-probabilistic sampling method based on convenience, obtaining a result of 100 teachers, with an approximate total of 10,000 teachers in the Extremadura community. Of the total sample, 78% of the participants were taught in Badajoz, and the rest were taught in class. Regarding the level at which they taught, 33% of them taught to grades other than the six primary school grades, being the fifth grade (16%) and the fourth grade (15%) the ones they taught the most. Demographic characteristics of the participants are presented in Table 1.

Variable	Categories	N	%
Age	< 30 years	9	9
	30 to 39 years	30	30
	40 to 49 years	34	34
	> 50 years	27	27
Province	Badajoz	78	78
	Cáceres	22	22
Variable	Categories	%	
Years of experience	< 5 years	15	
	5 to 10 years	19	
	10 to 15 years	16	

	15 to 20 years	17
	> 20 years	33
Level of students	1st grade	13
	2nd grade	5.5
	3rd grade	5.5
	4th grade	15
	5th grade	16
	6th grade	12
	Other	33

Table 1. Sample characterization (N=100)

N: number; %: percentage

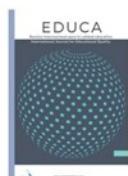
Procedure

The sample was obtained from the directory of the Ministry of Education and Employment of the Regional Government of Extremadura in Spain. This directory was used to gather the email addresses and phone numbers of the public primary schools in the region. Subsequently, an email was dispatched to all these educational institutions, elucidating the study's purpose and requesting them to forward the message to their respective teaching staff. Within this email, there was a provision for informed consent as well as a URL link to access the questionnaire. The questionnaire was administered through Google Forms and encompassed sociodemographic queries along with a two-part section. One section focused on assessing participants' proficiency and familiarity with ICTs, while the other sought specific information from the English teachers. The estimated time for the participants to complete their involvement in the study was approximately 10 min.

The decision to employ an electronic questionnaire was motivated by several advantages, including the ability to consolidate responses in a single database, cost savings, and the potential for a higher response rate owing to the prevention of missing data (Díaz de Rada, 2010; Kanuka & Anderson, 2002). All the data were collected anonymously and kept private.

Instruments

For the demographic characterization of the sample, an e-questionnaire with four questions was used to collect information on their age, province where they taught, years of



experience, and educational level at which they worked. To extract data about the use and management of ICTs during the confinement period of the pandemic, a questionnaire with 12 items with different options was administered, two of which were measured using a Likert scale, from to 1-10, where 1 is poor and 10 is expert; and -1-5, where 1 is weak and 5 is good. For the second section of the study, another e-questionnaire was applied, in which information on specific English education was extracted with six items.

Results

In this section, we will present the results obtained in the research divided into two sections, corresponding to the analysis of the results obtained from the answers provided by the teachers in each of the items corresponding to the application of the e-questionnaire previously referred to and with an annexed paper version to a population of Primary Education teachers of the education centers of the autonomous community of Extremadura. The first analysis explored the transition to e-learning. The second section is specifically for teachers of English, comprising six questions about the particular situation of this subject during the COVID-19 lockdown.

In the section related to transition to e-learning, questions were included about the ability related to ICTs, previous experience, and preparation to deal with lockdown, and questions related to the platforms used to transmit educational content, as well as their ability to manage them. Another aspect included in this section of the questionnaire was the adaptations that teachers made to their content and pedagogical strategies, forms of evaluation and monitoring of students, and understanding of the status of each student, in addition to the knowledge of the possibilities of each family. Most teachers felt sufficiently trained to handle ICTs, despite the fact that 73% had never had contact with them, stating that they were capable of temporarily overcoming this problem but not for such a long period. Regarding the contents taught during this period, 36 part of the teachers (36%) focused on reinforcing what they had already learned and adapted the educational program to the circumstances. Regarding workload, compared to the normal situation prior to the pandemic, 82% of teachers explained that online teaching entailed a greater workload.

In terms of visible learning outcomes, 69% stated that their students achieved more than sufficient results in a given situation.

Item		Categories			
ICT handling ability	handling	Skillful	Sufficiently		Hardly
		29%	59%		12%
Previous e-learning experience	e-learning	Yes	No		
		27%	73%		
Preparedness for the current situation	for	Yes	No	Able and resourceful to respond to an unforeseen situation, but no to a long duration one	
		20%	38%	42%	
Progress on course program	on course	Keep to the program, adapting it to the circumstances.	Minor advance, attentive on the development of the situation	Consolidating what was previously taught	Go over the subjects where students have more difficulties
		36%	27%	36%	1%
Work required to prepare classes during the lockdown	required to prepare classes during the lockdown	More work	The same		Less work
		82%	11%		7%
Assessment		Task correction	Online test		Others
		20%	38%		42%
Foreseeable results		Negative	Sufficient, given the situation	Positive	Too soon to tell
		4%	69%	16%	11%
Students' access to a device with internet connection	access to a device with internet connection	All	Majority	A few	None
		35%	47%	13%	0%
Students work in an orderly and positive fashion	work in an orderly and positive fashion	All	Most	Half	A few
		6%	54%	18%	22%
				None	0%

Table 2. Questions on ICT use and management

For a more focused interest in teaching English as a foreign language, we assigned a section of the questionnaire to primary education teachers who also teach English. Our interest lies in understanding the procedural changes and challenges of teaching a language online. The number of respondents greatly decreased, and only 14 teachers integrated this part of the investigation, which left us with very little meaningful data to draw relevant conclusions for the general population. However, because it may be of interest, we proceeded to analyze the information obtained. We begin by learning the pre-existing methods of English teaching used by the teachers. We indicated some of the most common procedures, and it was not surprising to find that a large percentage say that following the coursebook is their choice. We will not take away any importance or merit from the fact that these books are increasingly well-studied and complete, very adapted to the program of the course, and often serve as a guide to the same program.

Pre-lockdown teaching method and strategies	Grammar-translation method	Direct Methods	TPR Physical Response	Total Communicative approach	Following the course book's instructions	Diverse
	0%	21.4%	7.1%	28.6%	35.7%	7.1%
Maintaining teaching methods and strategies during lock down	Yes	No				
	30.8%	69.2%				
Task correction	Yes, individually	Not checked, as task are well instructed, and parents follow the work			Verified through parents' report	
	76.9%	15.4%			7.7%	
Teaching English compared to other subjects	Easier	Same			Harder	
	0%	15.4%			84.6%	
Skills worked in distance teaching	Speaking	Listening	Reading	Writing		
	46.2%	84.6%	100%	84.6%		
	(N = 6)	(N = 11)	(N = 13)	(N = 11)		

Specific actions in teachingresources English	Gamification	Direct	Web		Original materials
		Pages: council	British Course books	Internet videos	
	28.5%	57.1%	78.6%	78.6%	50%
	(N = 4)	(N = 8)	(N = 11)	(N = 11)	(N = 7)

Table 3. Teaching English during the COVID-19 pandemic lockdown

After extracting information on the platforms used for teaching, 18 options were obtained, with instant messaging via e-mail (83%), followed by the Rayuela platform (80%), school books (48%), telephone calls, and videoconferences (48%) standing out in first place.

Discussion

This study aims to analyze teachers' behaviors during the lockdown and their knowledge and skills regarding ICTs, and to understand the adaptation of those teachers who are in charge of teaching English. Regarding ICT handling ability and previous e-learning experience, most of the teachers declared that they did not have any previous experience in this regard, although most of them reported having sufficient skills to face this new challenge and adapt to the classes. From these results, we can understand that few teachers were prepared for this, many were skilled enough to get through the quarantine, but 38% were caught unsuspectingly and dealt with this in any way they could. These results coincide to a large extent with those presented in other articles, where, despite having a wide range of platforms, media, and applications to confront this new situation, teachers had certain difficulties in dealing with them, since many of them had not previously had contact with this type of technology (König et al., 2020; Reynosa Navarro et al., 2020).

On the perception of work in this period of the pandemic, of course, it could mean differently depending on many predictable factors, such as skill with the tools to be used, the methods used, and the conditions of the teacher and his students, among others. The teachers described the task of preparing virtual classes and distance learning as requiring more work than face-to-face classes. This can be due to several reasons, either because they do not master computer tools well, because it is a new situation for them, or because they already had their programming prepared and had to make adaptations. The weight of the students' situation in this equation cannot be ruled out, as they may not be prepared or have the means to face changes



during the teaching process (MacIntyre et al., 2020; Schipor & Duca, 2021; Tynan et al., 2015; Wang et al., 2016). In agreement with these results, other studies have stated that online teaching often requires more time and work for teachers. In addition to the added effort of adaptation, there are other factors that increase this effort, such as the large size of classes, difficulty in communicating with students, and difficulty in creating dynamics among students, since communication is hindered. Research carried out in this field has revealed that together with the increase in the amount of work required by sudden technological adaptation and online teaching, technological stress can become a mental health problem for teachers, caused in this case by the need to learn and evolve with technological platforms and be able to offer quality teaching to their students (Tarafdar et al., 2010). The most commonly used media for teaching were instant messaging and the Rayuela platform, followed by videoconferencing. Related to these results, other studies have revealed similar results in finding video platforms that are among the most commonly used (Abdel Latif, 2022).

When asked about expected outcomes, very few participants thought a negative outcome was likely and 11 percent thought it was too early to predict anything. Slightly more, teachers believed there would be a positive outcome regardless, but the vast majority (more than two-thirds) responded that a positive outcome is likely, and more than two-thirds responded with some caution that they expected a sufficiently acceptable outcome given the situation. Multiple scientific studies have shown the advantages of online teaching owing to the speed of this type of media, where communication is instantaneous, and access to information is unlimited and practically infinite (Farrell & Brunton, 2020; Köprülü, 2021; Paulsen & McCormick, 2020).

Regarding students' work, half of the teachers seemed to have a consensual opinion about the correct and adequate participation of the majority of their students in online classes. Ideally, all students should behave in this way, but only six out of 100 teachers consider this to be real. The remaining results are divided in a similar way between half of the students, and only a few, which indicates that there is a long way to go before we can control the processes and seriously engage the attention of students in this teaching format. When asked about how the students took the online classes, a large majority said well or very well, stating that they



adapted well. Related studies have stated that younger students have less difficulty adapting to and continuing online methodologies (Anguita Acero et al., 2020).

In the second part of the questionnaire, with questions about the English teachers, the answers showed that most of the teachers followed the course book, the direct method, and the communicative approach, even though most of the teachers did not keep the methods they used before the confinement, and they did not keep the methods they used before the confinement. This may be due to the fact that during video conferencing is not easy for students to speak at the same time, or in pairs, and individually consumes time that the teacher is unable to manage. Teaching English at a distance has characteristics that may differ from classroom teaching, especially because there are numerous online tools and resources that make the entire process more appealing and lighter.

Conclusions

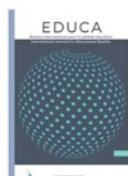
The results of the questionnaire indicated that the teachers participating in this study found multiple difficulties when facing this situation. The government authorities made available to teachers the resources that were possible, some of which already existed, others streamlined in the shortest possible time, and training was offered to interested teachers. In general, teachers proved to be up to the challenge of adapting and tailoring the program to the conditions imposed by government officials and confinement. When asked, most teachers stated they had managed to adapt to the situation and give an effective answer, even though, at the beginning, they did not feel technologically capable. An event of this magnitude and unpredictability has a surprise and fear effect that conditions all the factors related to academic activity. From the different responses obtained, although too small to recognize it as an identifying sample of the group, we infer that there was no immediate and concise guidance on the actions to be taken. We cannot blame anyone so lightly ourselves, but we can blame the pandemic and the feelings it provokes because all of this was unexplored territory, especially in the case of primary education. Although this rapid adaptation on the part of both teachers and students was a fault of the pandemic, it is true that there are certain underlying responsibilities that are not managed by educational institutions. Regarding the limitations of this work and future lines of research, it would be interesting to apply qualitative methods that allow us to identify others responsible for this technological dishabituation, since it is true that



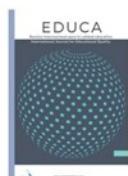
the process followed during the pandemic was improvised. However, it is possible that teaching staff may feel that their training in this regard is insufficient. Similarly, it would be interesting to study the relationship and influence of student-teachers-family, since the context of each student and the involvement of the teaching staff may be determinants of the perception of teaching in this period.

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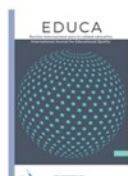
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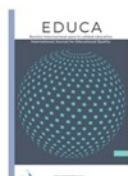
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