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Consequences of COVID-19 at Schools According to Their Socioeconomic Context and Type

Consecuencias del COVID-19 en los centros educativos en función de su contexto socioeconómico y titularidad

新冠疫情对学校的影响，基于社会经济背景和学校类别的分析

Последствия COVID-19 в образовательных центрах в зависимости от их социально-экономического контекста и формы собственности

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Abstract

The global pandemic caused by COVID-19 has led to changes in the organisation and management of educational institutions, in teaching methodologies and in the relationships established with students and their families. The aim of this research is to find out the opinion of the directors of 43 schools in Seville (Spain) on the management of their schools and the possible problems that may arise during the period when classroom activities cease, considering the socio-economic level of the context where the school is located and its ownership. The research methodology is quantitative, descriptive, *ex post facto*, transversal, and correlational. A questionnaire was used to collect information, validated by expert judgement, and subjected to the Cronbach Alpha reliability test. The results present a clear differentiation in the answers depending on the type of educational centre and the socio-economic level of the area where they are located, in questions such as the organisation from the management team, the development of the academic task not in person or the relationship with the families. After the research carried out, it was concluded that public schools and schools located in contexts of low socioeconomic level, are those who have fewer technological resources to provide an appropriate educational response, the same happens with the provision of technology in the homes, creating a great inequality of access to education that generates major associated problems.

Keywords: COVID-19, digital divide, online education, educational centres, social inequalities, confinement.

Resumen

La pandemia mundial provocada por el COVID-19 ha originado cambios en la organización y gestión de los centros educativos, en las metodologías docentes y en las relaciones que se establecen con los estudiantes y sus familias. El objetivo de esta investigación es conocer la opinión de directores y directoras de 43 centros educativos de Sevilla capital (España), sobre la gestión de sus centros y las posibles problemáticas surgidas durante el periodo de cese de actividades lectivas presenciales, teniendo en cuenta el nivel socioeconómico del contexto donde se ubica el centro y su titularidad. La metodología de investigación es cuantitativa, de corte descriptivo, *ex post facto*, transversal y correlacional. Para la recogida de información se ha utilizado un cuestionario, validado mediante juicio de expertos, y sometido a la prueba de fiabilidad Alfa de Cronbach. Los resultados presentan una clara diferenciación en las respuestas dependiendo del tipo de centro educativo y del nivel socioeconómico de la zona donde se encuentran, en cuestiones como la organización y gestión desde el equipo directivo, el desarrollo de la tarea académica no presencial o la relación con las familias. Tras la investigación llevada a cabo, se concluye que los centros educativos públicos y los centros situados en contextos de nivel socioeconómico bajo son los que disponen de menos recursos tecnológicos para dar una respuesta educativa apropiada. Lo mismo ocurre con la dotación de tecnología en los hogares, creando una gran desigualdad de acceso a la educación que genera problemáticas asociadas de gran calado.

Palabras clave: COVID-19, brecha digital, educación online, centros educativos, desigualdades sociales, confinamiento.

概要

全球新冠疫情导致学校的组织和管理、教学方法以及与学生及其家人建立的关系发生了变化。本研究的目的是了解塞维利亚（西班牙）的 43 个学校的负责人对其学校的管理以及关于课堂活动暂停期间可能出现的问题的意见，研究中我们考虑到了学校周遭的社会经

济环境及其学校类别。我们采用定量、事后回溯、横向和相关性的研究方法。为了收集信息，研究使用了一份经过专家判断进行验证并通过克隆巴赫系数可靠性测试的调查问卷。研究发现，根据学校的类型和所在地区的社会经济水平的不同，在领导团队的组织和管理、非面授教学任务的发展，以及与家庭关系等问题上的结果存在明显差异。本研究得出了以下结论，公立学校和位于社会经济地位较弱地区的学校拥有最少的、可对当下教育情况作出适当的回应的技术资源。该问题也发生在学生家庭，技术资源的匮乏导致了接受教育机会的严重的不平等现象。

关键词：新冠疫情，数字鸿沟，在线教育，学校，社会不平等，隔离。

Аннотация

Глобальная пандемия, вызванная COVID-19, привела к изменениям в организации и управлении школами, в методиках преподавания и в отношениях, установленных с учениками и их семьями. Цель данного исследования - узнать мнение директоров и завучей 43 школ Севильи (Испания) об управлении их школами и возможных проблемах, возникающих в период прекращения учебной деятельности, принимая во внимание социально-экономический уровень контекста, в котором находится школа, и ее принадлежность. Методология исследования - количественная, описательная, постфактум, сквозная и корреляционная. Для сбора информации использовался вопросник, который был проверен с помощью экспертной оценки и подвергнут тесту надежности альфа Кронбаха. Результаты показывают четкую дифференциацию ответов в зависимости от типа образовательного центра и социально-экономического уровня района, в котором они расположены, в таких вопросах, как организация и управление управленческой командой, разработка академического задания на непосещение или отношения с семьями. После проведенного исследования был сделан вывод, что государственные школы и школы, расположенные в условиях низкого социально-экономического уровня, являются теми, которые имеют меньше технологических ресурсов для обеспечения соответствующего образовательного ответа. То же самое происходит и с предоставлением технологий в домашних условиях, создавая огромное неравенство в доступе к образованию, которое порождает значительные сопутствующие проблемы.

Ключевые слова: COVID-19, цифровой разрыв, онлайн-образование, образовательные центры, социальное неравенство, заключение.

Introduction

The COVID-19 pandemic has triggered an unprecedented revolution in education in our country, putting the entire national education system to the test. Abruptly, between March 11 and 13, 2020 millions of students left classrooms to continue their courses at home, under the supervision of their families and teachers, in an educational scenario characterized by forced digitization (Marin, 2020).

This extraordinary situation prompted an evident questioning of the educational system, as well as the appearance of a series of problems for teachers, families and students: stress, a lack of coordination, disconnection on the part of students in their learning processes, students with unmet special educational needs, a lack of resources and/or computer equipment, failures on educational platforms, and a lack of competencies among teaching staff.

It all started in December 2019, when news out of China reported the appearance of a type of pneumonia of unknown origin later to be dubbed COVID-19, caused by the SARS-CoV-2 virus. In the following weeks, said virus spread extensively throughout different countries around the world, reaching a pandemic level, with strict containment measures being adopted in an attempt to prevent the transmission of COVID-19 (Adhikari et al., 2020; Brooks et al., 2020; Ornell et al., 2020).

In Spain, on March 14, Royal Decree 463/2020 declared a "state of alarm" to manage the health crisis caused by the pandemic. A few days later, on March 29, the measures were tightened, bringing a large part of the country's economy to a standstill.

This circumstance forced educational institutions to suspend classroom teaching to avoid the risk of contagion. According to the UNESCO Institute for Statistics, it is estimated that the suspension of classes has affected 890 million students in 114 countries (Unesco, 2020).

With the closure of schools during the period of lockdowns, administrations and educational authorities sought to offer, in record time, solutions and measures to guarantee and ensure the continuity of the learning process, in most cases based on virtual teaching and, in numerous instances, of a palliative nature. In this regard, Unesco-IESALC (2020) recommended the use of virtual classrooms and tele-training educational platforms, with the aim of supporting continued learning by students who were under lockdowns.

In any case, it should be noted that the use of digital technology is a growing, structural phenomenon in education today, although it is still insufficient (Gudmundsdottir & Hatlevik, 2018; Dong & Newman, 2016; García & García, 2014). This pivotal digital shift has given rise to new challenges for teachers, as they must acquire innovative knowledge and skills that allow them to make effective use of ICT in their teaching practices (Pozo et al., 2020; Rokenes & Krumsvik, 2016).

Indeed, at present, despite the initiatives undertaken and investments made by educational authorities, many teachers do not seem to be trained to include ICT in their daily practices (Cabero-Almenara & Palacios, 2020; Fernández-Cruz & Fernández-Díaz, 2016), it being necessary to gradually train teachers to introduce technology into their classrooms, overcoming attitudinal and training barriers (Guzmán & Nussbaum, 2009; Ghitis & Alba, 2019), as well as circumventing technical problems that end up constituting major limitations (Türel & Johnson, 2012). Teaching Digital Competence (TDC), makes possible the implementation of skills and abilities linked to the use of ICT to produce knowledge, it being necessary to approach it from a holistic perspective that guarantees the improvement of students' digital competence (Flores-Lueg & Roig-Vila, 2016; Álvarez & Gisbert, 2015). In this regard, Colás-Bravo et al., (2019) indicate that "it is up to teachers, depending on their own digital competence levels, to offer different training opportunities that allow their students to increase their potential to develop and become active agents in society" (p. 24).

In the same way, the integration of ICT into the educational environment is key to designing creative learning actions, making active learning by students viable and effective (Fernández et al., 2020; Ghavifekr & Rosdy, 2015; Álvarez, 2020), and altering perceptions of technology as a simple tool that can facilitate certain lessons and/or experiences (Gros, 2012; García-Lázaro, 2019; Cotán et al., 2021).

It seems clear that the digital literacy of teachers favors the use of ICT in education, serving as a link between technology and training processes (Claro et al., 2018; Gall-

lardo-López & López-Noguero, 2020). In addition, it allows for the acquisition of digital skills essential to access and manage technologies, and communicate - an aspect that has emerged as vital in the current situation. For all these reasons, teacher training in these areas should be a gradual process where the aim is for the teacher not only to consume knowledge, but also to rely on ICT to enrich and generate it (Cabero-Almenara & Valencia-Ortiz, 2018; Cabero-Almenara & Martínez, 2019).

There are other inequalities related to the digital divide worth of mention. School closures prompted teachers and students to work and interact via the Internet, and this development, the competence of teachers aside, has led to other learning inequalities. Not all students have equal access to the resources required, nor do they all have computers, or, if they do, they are not always their own, but rather shared with other siblings at home, and/or with their parents, who may also need them to work remotely.

Moreover, not all students have the necessary skills to use their computers efficiently, and not all are surrounded by adults with advanced digital skills to navigate the digital jungle ably (Beaunoyer et al., 2020). According to Bonal & Gonzalez (2021), "not attending school reduces learning opportunities for all, but does so particularly for children from less educated or low-income families" (p.46).

Despite advances in relation to technology, the digital divide is still present and is understood today as a complex and multidimensional phenomenon (Cervantes & Gutiérrez, 2020; Cruz et al., 2017; Guitton, 2020), emerging as a relevant social justice in the 21st century (Rogers, 2016). In addition to the limitation in relation to access to knowledge and the ability to integrate technology into educational practices, the digital divide determines communication potential, where deficits can lead to marginalization (Büchi et al., 2018; Resta & Laferrière, 2015).

Against this backdrop, in Spain, on April 15, the Ministry of Education and Vocational Training (MEFP) reached an agreement with the country's Autonomous Communities (CCAA) to impart the third trimester of education via distance education, thus ensuring that all students would be able to complete the academic year despite the exceptional situation the country was going through. Thus, the MEFP and the Autonomous Regions agreed that evaluations would be continuous, as a general rule allowing students to proceed to the next year, particularly students in vulnerable situations. Likewise, it was agreed that the third trimester would be dedicated to reviewing and going back over content through interdisciplinary and comprehensive activities, thereby avoiding overloading the students.

Similarly, teachers were urged to pay attention to students who were lagging behind or struggling with the educational process, offering them specific plans to bolster their academics (Zubillaga & Gortazar, 2020). This was not always possible, however, mainly because a significant number of students did not possess adequate devices with Internet connections (Van & Parolin, 2020). In this context, the role of families emerged as key, essential to reinforce the work carried out at a distance by teachers, thereby ensuring the achievement of their children's educational goals (Muñoz & Lluch, 2020; Garcés, 2020; Monasterio & Briceño, 2020), an outcome that was not achieved in all cases, especially in families from disadvantaged backgrounds.

In this scenario of instability, educational interventions were carried out with urgency, sometimes without fully engaging families, exposing the weaknesses of the educational system, which was unable to learn from setbacks and rectify shortcomings.

Finally, the organization and coordination by school administrations is always necessary, and even more so in emergency circumstances such as those we experienced, in which cooperation between and the solidarity of the entire educational community is necessary, with members being involved so that they feel that they are co-participants and key agents in the process (Jiménez-Cruz, 2019; Leiva-Guerrero & Vásquez, 2019; Villa, 2019).

During the pandemic that we had to suffer through, the responses by administrations in terms of the management of groups and the establishment of processes were often swift, coming even before the solutions proposed by government (Aznar, 2020).

Methodology

The main objective of this study was to gauge the opinions of school principals in Seville (Spain) regarding the management of their schools and the problems that arose during the period during which classroom activities were suspended due to the COVID-19 pandemic, addressing a variety of issues, such as the organization of schools in the midst of the pandemic, relationships with families, the non-classroom activities proposed for students, and their educational response.

The sample was selected via simple random sampling. Initially, the population was selected if they met the characteristics of being principals of public, private or state-subsidized schools in the city of Seville. For this purpose, the directory of schools registered in the database of the Junta de Andalucía (regional government) was consulted, and an e-mail was sent to 183 of them, providing information about the study and a link to the questionnaire so that they could complete it online. An attempt was made at all times to achieve a proportional sample in terms of school type, and a representative sample in terms of socioeconomic context.

Finally, between April and June 2020, 43 people responded, which are those making up the final sample for this study. Of the final sample, 51.2% are women and 48.8% are men, of ages between 31 and 40 (20.9%), 41 and 50 (25.6%), and 51 and 64 (53.5%). Most of the respondents had 1 to 10 years of experience as school principals (69.7%), 14% had 11 to 20 years of experience, and 16.3% had 21 to 33 years of experience.

With reference to the type of school where the participants in the study worked, 41.8% were public, 26.6% were private, and 31.6% were subsidized. A total of 69.8% of the schools were located in areas considered by the respondents to be of an average socioeconomic level, 25.6% were considered by the different principals in the sample to correspond to a low socioeconomic level, and 4.7% were considered to be in areas characterized by a high socioeconomic level.

Among the educational stages covered at these schools, taking into account that multiple phases can be encompassed at the same school, we find the following: Early Childhood Education (18.6%), Primary Education (41.8%), E.S.O. (Obligatory Secondary Education) (32.5%), "Intermediate-Level Vocational Training Programs" (27.9%), "Higher-Level Vocational Training Programs" (34.8%), Baccalaureate (23.2%), Adult Education (18.6%), and Special Education (4.64%).

In order to carry out our analysis of the study, we proceeded based on the following hypothesis: *The type of the school and the socioeconomic context in which it is located has influenced, in the first months of the COVID-19 pandemic, coordination between the administration and faculty, the availability of technological resources, the execution of academic tasks by the student body, and communications with the families.*

The study was methodologically designed with a quantitative, descriptive, *ex post facto*, cross-sectional and correlational approach. The questionnaire used for the collection of information is called "Study of the effect of COVID-19 on the educational context". It has 31 items divided into four blocks, or study dimensions. Block 1 gathers sociodemographic information on the study's sample, Block 2 focuses on the organization and management of the administration during the period when classroom activities were suspended, Block 3 collects information on the execution of academic tasks in the remote (non-classroom) modality, and Block 4 studies relationships with families under these particular circumstances. The responses on the questionnaire are Likert-type, with an ordinal rating scale ranging from 1, "Totally disagree" to 4. "Totally agree". Similarly, the questionnaire concluded with a final, open-ended question that could be analyzed using the content analysis technique (López-Noguero, 2009).

The data collection instrument was designed and validated, in the midst of the pandemic, by means of expert judgment (Escobar & Cuervo, 2008; Cabero-Almenara & Llorente, 2013). To this end, initially, expert selection criteria were established based on: a) academic training related to the subject of study (teachers and pedagogues), and b) teaching and research experience related to the object of study. Ultimately, 5 experts were selected.

A rubric was then designed to evaluate the research instrument so that they could indicate the instrument's structural aspects of reliability and validity, as well as the modifications of content that they considered pertinent. Specifically, we wanted to know the experts' opinions on the adequacy, clarity and congruence of the questions, as well as the relevance of the dimensions analyzed. After an initial review by the experts consulted, slight modifications were indicated and applied before the instrument was distributed to the selected sample. In general terms, the information-gathering instrument was deemed suitable, being considered, in the opinion of the experts consulted, valid for the population at which the study was aimed.

In addition, the questionnaire was subjected to Cronbach's Alpha reliability test, obtaining positive results in the different blocks that comprise it: Block 2 (.783), Block 3 (.893) and Block 4 (.852) (Mateo, 2004; O'Dwyer & Bernauer, 2014). For the statistical processing of the data on which this article will be based, the *Statistical Package for the Social Sciences* (SPSS V26) software was used, carrying out descriptive, correlational and cross-tabular analyses.

Analysis and results

First, the data gathered with the questionnaire was subjected to Spearman's Rho nonparametric statistical test, to look at the possible correlations between items and the "type of school" and "socioeconomic level of the context" variables.

Table 1

Spearman correlation between the "Type of school" variable and the questionnaire items

		Spearman's Rho	
Dimension of analysis	**Item**	**Correlation**	**Asymptotic significance (bilateral)**
Organization and management by the administration	12. The coordination by the administration during the whole educational process is being effective.	.328	.032*
	13. The school has the technological resources necessary to respond to the problems that have arisen during the situation.	.601	.000**
	15. The teachers who are part of the faculty at the school have the necessary digital training to deal with the situation.	.548	.000**
	16. In general terms, coordination and management by the administration is appropriate.	.408	.007**
Implementation of remote academics	19. The online educational platform that is being used to manage the academic processes with students is working properly during the cessation of classroom activities.	.562	.000**
	20. The faculty is not having much difficulty teaching their classes online.	.377	.018*
	21. Students are responding adequately to the new online teaching/learning situation.	.320	.047*
	22. Coordination among teachers to follow up on students is proving adequate.	.332	.029*
Relationship with families during the cessation of face-to-face teaching activities.	28. Communication with students' families is proving adequate.	.486	.001**
	29. Families have the technological resources necessary to deal with the situation.	.519	.000**
	31. The responses by the families to the academic measures adopted have been positive; they are cooperating at all times.	.416	.006**

Note. * = significance at .05; ** = significance at .01

Table 2

Spearman's correlation between the "Socioeconomic level of the context" variable and the questionnaire items

			Spearman's Rho
Dimension of analysis	**Item**	**Correlation**	**Asymptotic significance (bilateral)**
Organization and management by the administration	13. The school has the technological resources necessary to respond to the problems that arise during the situation.	.305	.047*
	14. Coordination with the faculty during the whole educational process is proving effective.	.304	.048*
Implementation of remote academics.	20. The faculty is not having much difficulty teaching their classes online.	.320	.047*
	21. Students are responding adequately to the new online teaching/learning situation.	.398	.012*
Relationship with families during the cessation of face-to-face teaching activities.	28. Communication with the students' families is adequate.	.368	.015*
	29. Families have the technological resources necessary to deal with the situation.	.539	.000**
	30. Families have expressed concern about having to support their children with their academic activities during this time.	-.311	.042*
	31. The response by the families to the academic measures adopted has been positive; they are cooperating at all times.	.371	.014*

Note. * = significance at .05; ** = significance at .01

The results obtained in the Spearman correlation test yield information relevant to the research objective proposed, although, before interpreting them, it should be taken into account that:

- The correlations were mostly positive, which means that when scores are high in one variable, they are also high in the other.
- There is only one negative correlation: the one corresponding to the correlation between "socioeconomic level of the school" and Item 30 (see Table 2). In this case, high scores on this variable correspond to low scores on the other variable analyzed, and vice versa.
- The correlations were, for the most part, significant (Etxeberria & Tejedor, 2005; Hedges, 1981).

The main results obtained in the study are presented below, taking into consideration the "type of school" and "socioeconomic level of the context" variables, and dividing the information into three dimensions of analysis: "organization and management by the administration", "the implementation of remote academics", and "relationship with families during the cessation of classroom activities".

Organization and management by the administration

If we analyze the results, taking into account the type of school, we can see how all the schools reported that the coordination by the administration had been effective (Item 12) during the pandemic. There is a small difference in the answers given by the professionals at public schools, however, as 66% totally agreed with the statement, while 33.3% chose the "Agree" option.

In contrast, at private schools, 100% responded with the option "Totally agree", and most of the principals at state-subsidized schools were in complete agreement (92.9%). In this regard, we can see how, in the case of public schools, their principals did not have such a strong impression regarding the effectiveness of coordination by school administrations, and they seemed to be more critical of their work.

In relation to whether the schools had the necessary technological resources to provide an educational response to a problematic situation like COVID-19, significant differences can be seen when we consider the type of school. Thus, if we look at Table 3, we can see that public schools are the most disadvantaged in this regard, with 83.3% stating that they do *not* have the technology necessary to adapt to a new online teaching-learning context. In contrast, 100% of respondents at private schools were in complete agreement with the item's statement, and believed that their schools had the necessary technological resources to carry out their work, which gives us an indication of the contrasting possibilities and resources between public and private schools.

Table 3

Cross table between the "Type of school" variable and Item 13. "The school has the technological resources necessary to be able to respond to the problems arising during the situation".

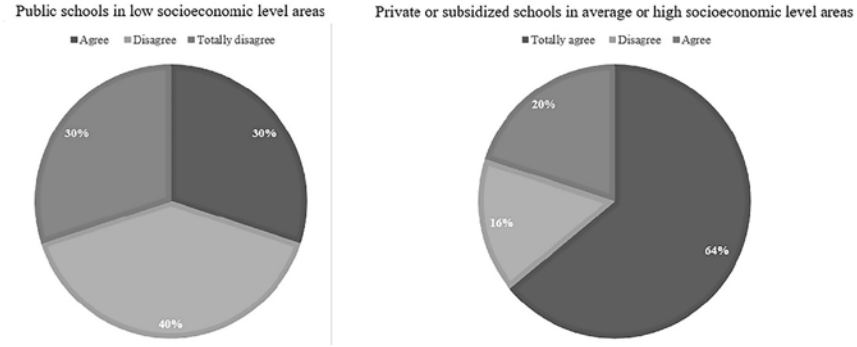
			Item 13				Total
			Totally disagree	Disagree	Agree	Totally agree	
Type of school	Public	N	8	7	3	0	18
		%	44.4%	38.9%	16.7%	0%	100%
	Private	N	0	0	0	11	11
		%	0%	0%	0%	100%	100%
	Subsidized	N	0	3	5	6	14
		%	0%	21.4%	35.7%	42.9%	100%
Total		N	8	10	8	17	43
		%	18.6%	23.3%	18.6%	39.5%	100%

If we consider the socioeconomic level of the area where the school is located, we can state that those categorized as "Low" indicated that their schools did not have sufficient technological resources (63.7%), followed by schools located in "Average" socioeconomic settings (33.4%). The schools in "High" level areas recognized that they have no problems in this regard.

Figure 1 shows that the principals of public schools in socioeconomically disadvantaged areas clearly recognized that their schools do not have the technological resources needed to deal with the remote teaching situation. Meanwhile, 84% of those surveyed who run subsidized or private schools in areas with average or high socioeconomic levels stated that they *do* have the necessary technology.

Figure 1

Responses to Item 13: "The school has the technological resources necessary to be able to respond to the problems that arose during the situation", according to the socioeconomic context of the school and the type.



Implementation of remote academics

Delving deeper into the topic of digital technological resources, when asked about the statement in Item 19, "*The online educational platform being used to manage academic processes with students is working correctly during the cessation of face-to-face teaching activities*", 14.3% of the principals at public schools indicated that they totally disagreed, and 21.3% disagreed. However, in private and subsidized schools, all the answers to this question were positive ('Agree' or 'Totally agree'), once again highlighting the differences between types of schools in terms of access to technological and educational resources, vital to dealing with this pandemic.

In relation to teacher training in digital competencies for education (Table 4), 66.7% of the principals at public schools stated that the teachers at their school did not have the necessary training to carry out their academic activity online.

Table 4

Cross table between the "Type of school" variable and Item 15. "The teachers forming part of the faculty at the school have the necessary digital training to face the situation"

			Item 15				Total
			Totally disagree	Disagree	Agreed	Totally agree	
Type of school	Public	n	2	10	5	1	18
		%	11.1%	55.6%	27.8%	5.6%	100%
	Private	n	0	1	2	8	11
		%	0%	9.1%	18.2%	72.7%	100%
	Subsidized	n	0	1	7	6	14
		%	0%	7.1%	50%	42.9%	100%
Total		n	2	12	14	15	43
		%	4.7%	27.9%	32.6%	34.9%	100%

In the light of the data obtained, we can point out that in response to the statement "*Teachers have not had many difficulties teaching their classes online*" (item 20), 78.6% of those surveyed who work as administrators at public schools expressed disagreement. It is well worth noting that in private schools they reported that they had not had any difficulties in this regard.

If we look at the student body, specifically Item 21, *"The student body has responded adequately to the new online teaching-learning situation"*, once again the public schools report having had more problems, as 14.3% totally disagreed with the item's statement, and 28.6% disagreed. Only 7.1% of the principals at subsidized schools chose the option "Disagree", and none of the participants from private schools stated that their students had not responded adequately to the situation; in fact, 72.7% selected the option "Totally agree".

Taking into account the socioeconomic context in which the schools are located, teachers in areas with a "Low" socioeconomic level reported having experienced many difficulties teaching their classes online (62.5%), followed by schools in areas having an "Average" socioeconomic level (33.3%). In areas categorized as "High" level, they did

not have these problems. Similar results are found in areas characterized by a low socioeconomic level when we analyze whether teachers saw an adequate response by students (37.5% indicated that they had not seen an adequate response).

Relationship with families during the cessation of face-to-face teaching activities

With regard to the role of families in the socio-educational situation caused by the COVID-19 health crisis, significant data can be seen in relation to families' engagement with and follow-up on their children, as well as the relationships they established with teachers.

In this regard, at private and subsidized schools, all the responses to Item 28 "*Communication with the students' families is proving adequate*" were positive. A total of 27.3% of those in charge of private schools indicated that they "agreed" with the item's statement, and 72.7% chose "Totally agree". The results obtained for subsidized schools reveal that 42.9% selected "Agree" and 57.1% "Totally agree".

In public schools, 16.7% disagreed with the item's statement, and 5.6% totally disagreed, again pointing to important differences regarding the conditions faced by students at public schools, on the one hand, and private and subsidized schools, on the other.

Regarding whether families had the necessary technological resources to deal with the situation (Table 5), we can see that 83.4% of the people who administrate public schools indicated that their students' families did not have the technological resources required to adapt to online teaching, while the picture was completely different in the case of private schools (91% of the principals surveyed indicated that their students' families had the necessary technological resources to face the educational change caused by the pandemic), and at subsidized schools (71.4% chose 'Agree' or 'Totally agree').

Table 5

Cross table between the "Type of school" variable and Item 29. "Families have the technological resources necessary to face the situation"

			Item 29				Total
			Totally disagree	Disagree	Agreed	Totally agree	
Type of school	Public	n	5	10	3	0	18
		%	27.8%	55.6%	16.7%	0%	100%
	Private	n	0	1	5	5	11
		%	0%	9.1%	45.5%	45.5%	100%
	Subsidized	n	0	4	8	2	14
		%	0%	28.6%	57.1%	14.3%	100%
Total		n	5	15	16	7	43
		%	11.6%	34.9%	37.2%	16.3%	100%

Regarding the responses by the families to the academic measures adopted, and their cooperation, at the private and subsidized schools they agreed that it had been positive (100%), while 27.8% of the principals at public schools stated that families' cooperation had not been very positive.

When evaluating the data, taking into account the "Socioeconomic level of the context" variable, we can infer that the schools in areas with low socioeconomic levels suffered some problems when communicating with students' families (Table 6), as 18.2% of the respondents indicated that they disagreed with the statement proposed by Item 28.

Table 6

Cross table between the "Socioeconomic level of the context" variable and Item 28. "Communication with the students' families is proving adequate"

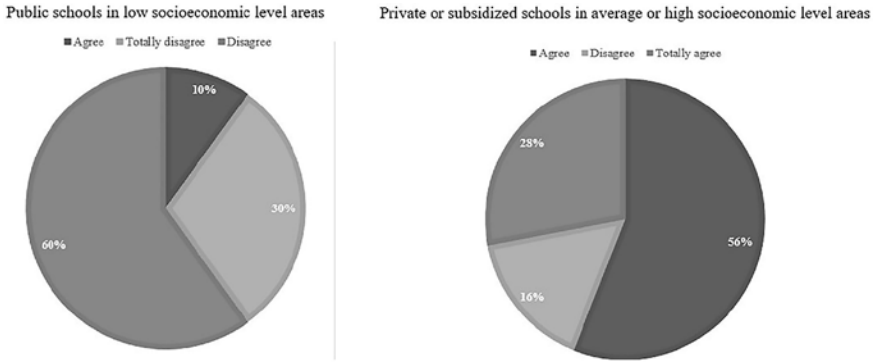
			Item 28				Total
			Totally disagree	Disagree	Agreed	Totally agree	
Socioeconomic level of the context	Low	n	0	2	8	1	11
		%	0%	18.2%	72.7%	9.1%	100%
	Average	n	1	1	12	16	30
		%	3.3%	3.3%	40%	53.3%	100%
	High	n	0	0	1	1	2
		%	0%	0%	50%	50%	100%
Total		n	1	3	21	18	43
		%	2.3%	7%	48.8%	41.9%	100%

In addition, 90.9% of respondents working in schools in areas categorized as having a low socioeconomic level expressed concern regarding the availability of technological resources for families, while 33.3% of the schools in average socioeconomic contexts also identified the availability of technological tools in the students' families as a problem.

Figure 2 shows that the principals of public schools in disadvantaged socioeconomic areas strongly acknowledged that their students' families did not have the technological resources necessary to deal with the remote teaching situation (90%). In contrast, 84% of the respondents who run subsidized or private schools, in areas featuring average or high socioeconomic levels, stated that their families did have the necessary technology at home.

Figure 2

Responses to Item 29 "Families have the necessary technological resources to face the situation"



The data reveal information on the families' concern with having to support their children in academic activities during this exceptional period: 81.8% of those in low socioeconomic level areas harbored this concern, and 50% in average areas. Finally, although it is not a very high percentage, 27.3% of school principals in low socioeconomic level areas stated that the responses by families to the academic measures adopted had not been entirely positive and cooperative, a situation that is still noteworthy, taking into account the importance of family-teacher coordination and the urgent need for adequate educational support and follow-up by the family during these trying times for everyone.

Discussion and Conclusions

The purpose of the study carried out was to examine the situations and experiences at schools during the cessation of classroom activities, and to gather the opinions of their principals about the problems that arose at the level of school organization and administration.

The suspension of face-to-face academic activity due to COVID-19 made it necessary to hastily implement distance education. Despite the efforts made by educational agents, the study carried out reveals that there were significant inequalities depending on the type of school (public, subsidized or private) in question and the socioeconomic level of the area where it is located (low, average or high).

The data gathered show how the schools had to adapt to the new situation of lockdowns and rethink the organization and management models of their administrations. The principals surveyed, men and women alike, reported being very satisfied with how they tackled this challenge involving the management and coordination of their faculties.

The difference between types of schools is evident when we asked whether they had the necessary technological resources to provide an appropriate educational response in the context of the problematic situation that arose.

As already evidenced by other research (Bonal & Gonzalez, 2021; Beaunoyer et al., 2020; Van & Parolin, 2020), digital inequalities during the COVID-19 pandemic were more acute in disadvantaged contexts. The results of this study confirm the fact that

public schools and schools located in underprivileged socioeconomic contexts have the least technological resources with which to provide an appropriate online educational response, there being a clear gulf in access to resources relative to private and subsidized schools, and areas featuring medium or high socioeconomic levels.

The digital divide, thus, and the scarcity of technological resources hindered the academic performance of many students, whose capacity to continue their learning in an optimal way was undercut. The same is true concerning the opinions expressed by the participants in the study regarding their degree of satisfaction with the online educational platform they used: the principals at public schools acknowledged that, in general, it did not work properly during the cessation of face-to-face teaching activities.

As we have been able to ascertain based on the results, digital literacy and an increase in ICT skills in the population, in general, and educational agents, in particular, are essential (Alvarez, 2020), since it has become evident that a lack of knowledge about its use is a barrier that obstructs the teaching-learning process. The imposition of lockdowns made the use of new tools, procedures, protocols and models indispensable, leading to an evolution, or at least a rethinking, of the traditional education model.

The challenge for the future lies in coordinating educational tasks accounting for and exploiting the advances provided by the use of ICT in school settings. A fundamental aspect to be addressed is the problem of teacher training in digital competencies for education, and the difference in the results obtained, since the principals at public schools stated that their teachers lacked adequate training to conduct academic activity online.

For this to be feasible, teachers must strengthen their technological training, since, living in a digital society, those who are to teach the next generation must be digitally literate. Nevertheless, respondents who run private or subsidized schools acknowledged that their teachers did have adequate training in digital skills. Therefore, as previously stated, it is necessary to support the digital training of teachers and promote new learning models allowing them to work in a multidisciplinary way, favoring universal education, equal opportunities and attention to diversity, and in which figures such as the social educator are emerging (López-Noguero & Cárdenas-Rodríguez, 2007; López-Noguero, 2008).

As for the students' response to this new situation of online teaching and learning, it was the public schools that reported having suffered the most problems. In this regard, teachers in schools located in deprived socioeconomic contexts reported to their administrations that they had difficulties teaching their classes online. However, in schools in areas categorized as having a "high" socioeconomic level, they did not have these difficulties, which highlights, again, the socioeconomic differences between the students and families in the different settings analyzed.

In any educational process, the family plays a major role and, given the social situation arising from the state of alarm due to the COVID-19 health crisis, the need for involvement and to monitor students' academic work increased. The communications and relationships established by teachers with families were key to proper teaching during these difficult months.

In this regard, there are families that can adequately assist their children in the educational process, and others that cannot do so due to a lack of resources or skills. Therefore, not all households have the same opportunities in terms of access, and digital inequalities, which already existed, were exacerbated by the COVID-19 crisis.

The health crisis, as well as the suspension of face-to-face classes in schools, particularly affected families with school-age children, exposing them to stressful situation. At times they were overwhelmed by the situation and, therefore, limited in terms of the quality educational responses they could offer.

Therefore, it is essential for parents to cooperate closely with teachers, being partners in their children's learning and actively participating to ensure that they achieve the necessary educational objectives. In this regard, families' support on school tasks during lockdown proved to be essential for the educational process to continue successfully.

The study carried out reveals, in light of the respondents' answers, significant differences between the different types of school and the socioeconomic levels of the areas where they are located, especially in terms of the technological resources available at the schools and in the students' homes.

The data in this article cannot be extrapolated to a national or international reality, due to the size of the sample. Therefore, as a future line of research, we intend to increase the sample with the opinions of other school principals from different parts of Spain. Likewise, we could delve more deeply into aspects such as the organization and administration of schools during the period of the "new normality", examining how academics were handled in this new scenario.

In summary, the situation that arose in relation to COVID-19 should represent an opportunity to implement alternatives, create different learning models based on innovative initiatives, develop effective processes on teaching teams, establish new educational strategies and ensure immediate and effective responses by governments and schools administrations, with the ultimate goal of creating fairer and more equitable societies.

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