

## Article

# Teachers' Experiences of Online/Distance Teaching and Learning during the COVID-19 Pandemic in Mainstream Classrooms with Vulnerable Students in Cyprus

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**Abstract:** The COVID-19 pandemic and subsequent school lockdowns in many countries forced teachers to deliver lessons online to ensure that students continued their studies. This shift, which caused major challenges for school systems worldwide, significantly affected the Cypriot education system, which is highly centralised and in which teacher-centred practices are widely used. In many countries, teachers and students were unfamiliar with the new teaching and evaluation methods, and learners in the most marginalised groups were deemed to be at risk of falling behind. For these reasons, an online survey was undertaken in Cyprus from March to September 2020 as part of an international online survey initiated by a university in the Northern Mexican state of Nuevo Leon. The survey examined teachers' perspectives on the new online pedagogical practices; the challenges they faced; and the impact of these practices on the learning progress of all students, including two vulnerable groups, i.e., individuals with learning disabilities and immigrant students aged 6–18 years. Key findings suggest that the teachers were unprepared to design inclusive student-centred digital activities and deliver online lessons and that distance teaching may have negatively affected students' learning experiences, especially in the vulnerable groups.



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**Keywords:** online (distance) teaching and learning; teacher perspectives; COVID-19; vulnerable students; learning disabilities; immigrant students; student participation; inclusion; Cypriot schools

## 1. Introduction

During the first phase of the COVID-19 pandemic, schools expected their teachers to teach online (Johnson et al., 2016) [1]. Effective online teaching requires both teachers and students to have access to computers and internet connection, and both must have the necessary skills and knowledge to use information and communication technology (ICT). Additionally, teachers can teach online effectively when they have positive attitudes and beliefs about ICT (Ertmer, 1999; Palloff and Pratt, 2007; Herold, 2017) [2–4]. In research conducted in the United Kingdom during the COVID-19 pandemic, most participant teachers used ICT on a regular basis and had good ICT skills; only a small number of participant teachers who lacked confidence were afraid of using ICT and avoided planning online teaching activities (Kim, 2016; Glasel, 2018) [5,6]. In general, while a few teachers admitted being against the use of ICT, considering it not useful in their disciplines (Orji, 2010) [7], most teachers claimed that they wanted to be trained in using technology effectively and efficiently in their daily practice (Ertmer, 2005; Tondeur et al., 2017; OECD, 2019) [8–10]. Research evidence suggests that while the majority of teachers are able to use computers, their abilities are limited in relation to online teaching activities (Efriana, 2021) [11].

Moreover, it is important to note that the successful implementation of online teaching and learning in mainstream schools also relies on students having access to appropriate technology and home support (Palloff and Pratt, 2007) [3]. In addition, it cannot be assumed that all students will be successful online learners (Leidner and Järvenpää, 1995) [12]. It

has been found that one challenge that teachers often face, regardless of subject area, is their students' unfamiliarity with the technologies and software used (Shank and Cotten, 2013) [13]. Keeping students engaged, which puts a strain on the vast majority of teachers, may also be related to students' unaccustomedness to online teaching software (Raes et al., 2020) [14]. In mainstream classrooms, it is easier for teachers to interact with their students consistently and for a longer time. Teacher–student interactions are beneficial for the development of positive self-esteem, self-confidence, and a sense of identity in students. Additionally, interactions among students can improve their ability to work collaboratively and productively in groups (Malecki and Elliot, 2002; Cunha and Heckman, 2007) [15,16]. On the other hand, when learning online, students have to be more disciplined, motivated, self-directed, and good at time management (Brown, 2019) [17], since online learning requires more self-attention than classroom-based learning. Teacher influence during online lessons may be limited by the absence of a discussion forum menu in the application used and, even when a menu exists, many students are unfamiliar with how to use it efficiently. Research has also identified that teachers have less control over attendance in online classes since the students who complete the registration are sometimes inactive until the end of the session and on occasion leave the online class for other activities (Efriana, 2021) [11]. Hence, online classes require students to be more active and interested in order to understand the syllabus and course content (Gurung, 2021) [18]. In this sense, vulnerable groups of students, such as those with learning disabilities and immigrant students, are at risk of experiencing greater learning loss (Brown, 2019) [17]. Research has indicated that online learning may lead to acute stress and adjustment disorders or distress among students who are self-isolated or quarantined at home (ibid.) [18] as they have fewer chances to socialise during online sessions than in the physical classroom (Garrison, 2017) [19]. Vulnerable groups of students, who have been identified as having lower levels of self-confidence, likely experience problems when interacting with their teachers and peers, especially as they are also expected to be passive online learners rather than active ones (ibid.). Contrastingly, teacher–student interaction and student–peer collaboration in a physical classroom may produce important positive effects, such as encouraging the development of confidence and problem-solving abilities in learners. In particular, high-achieving peers may motivate others to work harder through competition or social influence (Sacerdote, 2011) [20].

According to the World Health Organization (WHO) (2020) [21], the lack of access to learning deleteriously affected vulnerable groups of students during the COVID-19 pandemic. WHO (2020) [21] further stated that students with disabilities were at particular risk of learning loss because teachers faced difficulties in teaching online and providing their students with high-quality education. Furthermore, limited access to online education negatively affected how students learned and gained new skills (Kim and Fienup, 2021) [22]. Online teaching requires teachers to adapt their practices according to students' needs and to allow students to demonstrate their knowledge in different ways (Carnagey, 2001) [23]. The online approach also requires that teachers be trained in designing digital materials and using special software to facilitate speech recognition and screen reading (O'Hanlon, 2005) [24]. To motivate students to learn online, teachers are required to design an attractive learning environment and focus on stimulating critical learning rather than knowledge-based learning (Gurung, 2021) [18]. To encourage online student attendance, teachers are required to increase interpersonal interactions and give students explicit and consistent formative feedback (Salmons, 2020) [25]. Conventional feedback practices, such as addressing students by name, being specific when commenting on students' answers, making positive statements, and asking critical thinking-related questions, are also recommended for online teaching. To promote a feedback-rich environment, teachers are also encouraged to use online rubrics, templates, and technological tools that give automatic feedback on students' efficiency (Liebold et al., 2015) [26]. Otherwise, as Winter et al. (2021) [27] identified, students would merely be passive and distracted during online sessions, since they would feel insecure in the new online classroom environment. In this sense, during the COVID-19

pandemic, changes in teaching required designing and testing new methods in order to find the most effective ones (ibid.) [27]. Nevertheless, the required speed of response to this crisis did not allow teachers to adapt to the situation with a slow and steady approach (ibid.) [27]. Also, during the pandemic, increased workload and home teaching negatively affected the emotional status of teachers (Besser et al., 2020; Ng, 2007) [28,29]. Specifically, teachers were found to suffer from stress, anxiety, depression, and sleep disturbance, which made it difficult for many of them to design online activities to meet their students' needs (ibid.) [28,29].

In contrast, the results of an online survey by the European Commission Directorate-General for Communications Networks, Content, and Technology (European Schoolnet, 2012) [30] suggest that students in Cyprus enjoy higher levels of computer availability than their peers elsewhere in Europe and that teacher confidence in operational uses of ICT is comparable to or above EU averages. Yet, in line with other research work (i.e., Ertmer, 2005; Tondeur et al., 2017; OECD, 2019) [8–10], findings of a research study on students' experiences of online learning during the COVID-19 pandemic undertaken in Cyprus by Sofianidis et al. (2021) [31] indicated that teachers lacked familiarity with digital technologies and needed to be trained in how to employ effective teaching practices online. The Cyprus Ministry of Education, Sport, and Youth (MOEC, 2020) [32], in providing teacher training, focused on the technicalities of online teaching without introducing teachers to online pedagogy. This shortcoming resulted in most public schools being caught off-guard during the abrupt first lockdown period in Cyprus as the limited digital infrastructure and lack of an official platform for online communication meant that teachers were unable to swiftly shift to distance learning. Acknowledging the problem, MOEC adopted Microsoft Teams as the official online platform for online education in public schools. As many teachers had never used Microsoft Teams and were not trained in online education provision, a compulsory seminar organised by MOEC was scheduled to provide them with basic training (ibid.) [32]. For several weeks, the platform was used by students attending at least the third grade of primary school for online learning. On the other hand, emails with homework were sent to the parents of students in the first two grades of primary school and kindergarten, who were further encouraged to watch educational programmes broadcast on national television (ibid.) [32].

Based on the above research findings across studies from several countries, an online survey was designed to explore the perspectives of teachers in Cypriot mainstream schools on online teaching during the COVID-19 pandemic. The following three key questions underpinned the survey:

1. How did teachers in Cypriot mainstream schools evaluate their skills and competences to teach online during the COVID-19 pandemic period?
2. What challenges in relation to online teaching did the teachers face?
3. What impact did online teaching practices have on learning in vulnerable groups of students?

## 2. Materials and Methods

The global online survey was conducted in Cyprus and other countries during the first COVID-19 lockdown period (March–September 2020) to assess changes in education. It was a part of a broader unfunded research project initiated by a university in the Northern Mexican state of Nuevo León. Initially, it was planned to collect data only from Mexico, but as the topic was of more general interest, researchers from different countries joined the project, adapted and translated the survey, and shared the findings. Firstly, researchers from the UK, China, Hong Kong, and Denmark joined the project, followed by other researchers from Cyprus, Chile, Uruguay, Nigeria, Peru, Brazil, and South Africa. According to the World Health Organization (WHO) (2020) [21], all countries in Europe and the UK announced national lockdowns as the main measure to mitigate the outbreak of the COVID-19 pandemic in March 2020. Measures against COVID-19 in Latin American countries included the closure of public spaces, the limiting of social gatherings, curfews, and

quarantine from March 2020, while lockdown was enforced in August 2020 following the confirmed increase in deaths related to COVID-19 (OECD policy responses to COVID-19, 2020) [33]. Schools worldwide were completely closed for almost an entire year due to COVID-19 lockdowns (UNICEF, 2021) [34]. Schools in some Latin American countries remained largely closed until February 2021 (*ibid.*) [34]. Due to the large-scale and lengthy closures, researchers joined the project due to a sense of social responsibility, wanting to contribute to the understanding of the issues faced by educators during the unprecedented period of school lockdown.

Under these emergency circumstances, the primary objective of education systems across the world was to provide students with continuous access to lessons, along with additional learning support where needed, in a manner that was quick to set up and be reliably available and accessible to teachers, students, and other stakeholders (Hodges et al., 2020) [35]. As already discussed, teachers globally had to quickly adapt their methods from conventional to online practices in order to ensure continuous access to education for their students (Johnson et al., 2016) [1]. Considering that teachers' skills, attitudes, and beliefs regarding ICT can affect the quality and effectiveness of their online teaching and learning practices in general (Herold, 2017) [4], it could be suggested that, in crises circumstances, adapting to online education may be more challenging for teachers who have negative attitudes towards ICT. The Cypriot education system is highly centralised, with teacher-centred practices being widely used; Furthermore, teachers tend to lack training in developing conventional inclusive teaching practices to meet the learning needs of all students in mainstream classrooms (Angelides and Michailidou, 2007) [36]. In this context, it may be hypothesised that the majority of Cypriot teachers also face difficulties in teaching online and allowing their students to have high-quality learning experiences. Bearing these circumstances in mind, it may be suggested that in Cypriot mainstream schools, students, including vulnerable groups, are at risk of academic loss.

An online survey was selected for this project because it allowed for the collection of the opinions and attitudes of a large number of educators worldwide. During the pandemic, conducting research in this area was challenging, since all educators and students worked and studied from home as a result of the protective measures against the spread of COVID-19. In this sense, completing an online questionnaire was preferable, since teachers could answer at their own convenience and pace (Callegaro et al., 2015) [37]. The online survey consisted of 38 closed-ended questions, using multiple-choice items and Likert scales. The questions pertained to the demographic characteristics of the respondents, their views on their own training in ICT, their difficulties in adapting to online teaching practices, and the impact of online teaching on the learning of students with learning disabilities and migrant students. Closed-ended questions were used both to ensure a short completion time for the questionnaire and to reach the maximum number of teachers during the pandemic (Hassan et al., 2020) [38]. The questions were used to rate the teachers' experiences and their understanding of the design and implementation of online teaching practices as the only possible alternative mode of teaching during the pandemic (*ibid.*) [38]. The web-based questionnaire was the most appropriate method of collecting the data during lockdown. In addition, semi-structured interviews were planned, and the teachers who volunteered were invited to take part in a follow-up project in post-COVID-19 times. The answers were designed using a Likert scale, i.e., strongly agree, agree, strongly disagree, disagree, and not sure (Sapsford, 2007) [39], in order for the participants to be able to choose statements that more closely expressed or represented their beliefs and understanding. The questions used positive and negative statements equally, with more than five statements per question being provided, thereby avoiding respondent acquiescence and positional bias (*ibid.*) [39]. Additionally, the questionnaire was translated into Greek because this research study was conducted in Greek–Cypriot mainstream schools. The questionnaire was piloted to assess whether the questions were phrased to match the definitions used in English and whether they were clear and unambiguous for the respondents (Drever, 1995) [40]. Further objectives of questionnaire piloting were to ensure the brevity of participant response time,

check responses, and confirm the relevance of the statements in terms of the aims of the research study (*ibid.*) [40].

During the pandemic period, sampling was challenging, as all teachers had to work from home due to school lockdowns. Therefore, a novel approach to subject recruitment that incorporated exponential snowball sampling via social media was used (Parker et al., 2020) [41], with some participants recruiting colleagues to participate in the online survey. Survey dissemination in Cyprus required the participation of teachers from nursery schools to lyceums for different subject specialisations (see Tables 1 and A1 in Appendix A). Selecting this type of sampling process meant that there was no control on the number of teachers participating from each education sector, which resulted in primary teachers being the largest group of participants. Since this online survey did not aim to make generalisations related to teachers' beliefs at each school level, having unequal numbers of participants from various school levels was considered reasonably strong and reliable (Kumar, 2011; Patton, 2015) [42,43]. Accuracy in survey responses was a measure of the trust that was expected from a professional community of teachers who were seriously committed to the improvement in and evolution of the online teaching–learning system (Hassan et al., 2020) [38]. No incentives were offered to the participants to complete the survey. The researchers sent the link to the survey to participants via email or shared it through their social media profiles, and a unique code number was allocated to each participant. These control measures were used to ensure that each respondent took the survey only once. At the end of the questionnaire, the participants could submit their name and email address if they wanted to participate in follow-up semi-structured interviews post-COVID-19. Although this section was optional, almost half of the participants volunteered to be interviewed. The accuracy and reliability of the data at the entry level were ensured through a cross-validation process whereby demographic variables were compared to correct answers, such as the year groups the participants taught and the age of their pupils. The other responses were similarly validated against reliable benchmarks.

**Table 1.**

(1)		
Cypriot Teachers' Demographics		
Age	Frequency	Percentage
25–34	32	10.6
35–44	185	61.1
45–54	53	17.5
55+	33	10.9
<b>Total</b>	<b>303</b>	<b>100.0</b>
(2)		
Cypriot Teachers' Demographics		
Years of Teaching	Frequency	Percentage
Less than 1 year	15	5.0
1–5 years	32	10.6
6–10 years	45	14.9
11–15 years	85	28.1
More than 15 years	126	41.6
<b>Total</b>	<b>303</b>	<b>100.0</b>
(3)		
Cypriot Teachers' Demographics		
Marital Status	Frequency	Percentage
Single	66	21.8
Married	218	71.9
Divorced	19	6.3
<b>Total</b>	<b>303</b>	<b>100.0</b>

All the data collected were organised, cleaned, and analysed. Data analysis included the frequency procedure to tabulate the counts and calculate the percentages of responses. The data were classified using a self-cognitive classifier to analyse auto- and cross-correlations. The information retrieved from the analysis depicted considerations on online teaching during the COVID-19 pandemic in Cyprus. The quantitative data were then graphically represented in the form of graphs and charts to illustrate relationships among various data elements.

### 3. Results

#### 3.1. Online Teaching and Learning Practices in Cypriot Mainstream Schools

Teachers were asked how often they used ICT in their everyday teaching and learning practices during and before the pandemic. Table 2 shows that before the pandemic, 213 (71.3%) participants tended to use IT every day, while, during the pandemic, this number increased to 216 (81.2%).

Table 2.

	Use of ICT prior to the COVID-19 Pandemic in Cyprus		Use of ICT during the COVID-19 Pandemic in Cyprus	
	Frequency	Percentage	Frequency	Percentage
Not at all	7	2.3	19	6.3
Rarely	25	8.3	8	2.6
Sometimes	55	18.2	30	9.9
Almost every day	83	27.4	52	17.2
Every day	133	43.9	194	64.0
<b>Total</b>	<b>303</b>	<b>100.0</b>	<b>303</b>	<b>100.0</b>

Table 3 indicates that during the pandemic, 194 (64%) participant teachers transformed their conventional practices by including technology (see Table 3) and tended to use online platforms for their teaching and learning practices every day. A total of 52 (17.2%) teachers accessed online platforms almost every day, while 27 (10%) never accessed online platforms.

Table 3.

Use of ICT prior to the COVID-19 Pandemic in Cyprus		
	Frequency	Percentage
Not at all	19	6.3
Rarely	8	2.6
Sometimes	30	9.9
Almost every day	52	17.2
Every day	194	64.0
<b>Total</b>	<b>303</b>	<b>100.0</b>

During the pandemic, 174 (21.8%) teachers preferred to upload online teaching materials for their students, and 162 (20.3%) taught online using the platforms suggested by MOEC, for example, Microsoft Teams, Zoom, Viber, and WhatsApp. A total of 141 (17.7%) participants found different ways to maintain constant communication with students and their parents (e.g., Viber groups). In total, 132 (16.6%) primary school participants who taught students in the first grades tended to email the teaching materials to parents, and 98 (12.3%) tended to create online teaching materials and activities for their students for use during online sessions, while 78 (9.8%) tended to plan teaching activities to be uploaded online for asynchronous teaching sessions (see Table 4).

**Table 4.**

Teaching Practices during School Lockdown in Cyprus		
Teaching Practices	Frequency	Percentage
Uploading teaching materials to the school webpage in order for students to practice at home	174	1.8
Creating a separate webpage and uploading teaching materials	1	0.1
Designing and uploading teaching materials for asynchronous teaching	78	9.8
Designing and uploading teaching materials for synchronous and asynchronous teaching	98	12.3
Designing teaching materials for the classroom	1	0.1
Employing online educational games for teaching purposes	1	0.1
Teaching online via online platforms (e.g., Microsoft Teams, Zoom, Viber, and WhatsApp)	162	20.3
Uploading videos via ClassDojo	1	0.1
Using ClassDojo	4	0.5
Emailing teaching materials to parents of students	132	16.6
Sending homework via Viber to parents of students	1	0.1
Using all the above practices	2	0.2
Using different means and devices to help students (e.g., guiding them through how to connect to Microsoft Teams)	141	17.7
<b>Total</b>	<b>797</b>	<b>100</b>

### 3.2. Teachers' Difficulties in Teaching Online in Cyprus

Regarding teachers' ICT skills in Cyprus, 149 (49.8%) stated that they had basic ICT knowledge, with only 51 (17.2%) participants declaring that they had excellent ICT skills. The fact that participants had to quickly transform their conventional practices to embrace online platform use seems to have affected them emotionally and challenged their perceived level of effectiveness in online teaching. In total, 200 (65.1%) teachers stated that they had been negatively affected by changes in their teaching practices. In particular, 92 (30.4%) said that they had felt stressed; 69 (22.8%) had felt upset; and 39 (12.9%), had felt under pressure because they had had to transform their usual teaching practices quickly (see Table 5).

**Table 5.**

Transforming Online Teaching Practices		
How Teachers Felt	Frequency	Percentage
Excited	86	28.4
Calm	17	5.6
Stressed	92	30.4
Upset	69	22.8
Under pressure	39	12.9
<b>Total</b>	<b>303</b>	<b>100.0</b>

Some teachers were not only unprepared but also unmotivated to transform their conventional teaching practices as they found working from home really challenging and had low confidence in their ICT skills. Responses to a Likert scale question showed that they were satisfied with their ICT knowledge, rating their skills as 3 on a scale between 1 (poor skills) and 5 (very good skills). A total of 196 (37.7%) stated that they were able to design online teaching practices by consulting free online materials about usage of blogs, online platforms, and videos (see Table 6). While 64 (12.3%) teachers had attended a

seminar related to educational ICT, most teachers (37.3%) noted that they needed further training related to the use of online platforms such as Microsoft Teams.

**Table 6.**

Training during the COVID-19 Pandemic and School Lockdown in Cyprus		
Training	Frequency	Percentage
Watching free online videos about blogs and online platforms	196	37.7
Attending an online seminar organised by MOEC	147	28.3
Attending a seminar related to educational IT	64	12.3
Not attending any seminar	58	11.2
Practising alone or with other colleagues to design online practices	2	0.4
Support from other colleagues	18	3.5
Support from IT teachers	14	2.7
Attending an in-school seminar about IT	6	1.2
Attending a seminar about online platforms	6	1.2
<b>Total</b>	<b>520</b>	<b>100.0</b>

Table 7 shows that 98 (19.1%) teachers used online materials provided by MOEC for asynchronous teaching, 96 (18.7%) found exchanging and downloading free teaching materials from school blogs useful, and 65 (12.6%) found MOEC support materials useful for supporting their students educationally and emotionally during the pandemic. Furthermore, 53 (10.3%) teachers planned online teaching materials for synchronous teaching, and 25 (4.9%) participants appreciated free access to online materials such as libraries, educational videos, and songs. Finally, 25 (4.9%) teachers were happy to receive grants to buy IT equipment for their online teaching, and 22 (4.3%) participants appreciated the professional support they received from the ICT department of MOEC.

**Table 7.**

Support Provided by MOEC to Teachers during the COVID-19 Pandemic		
	Frequency	Percentage
Providing educational materials for asynchronous teaching	98	19.1
Visiting educational blogs (exchanging teaching materials with other teachers, etc.)	96	18.7
Teachers unaware of existing support/not applicable	83	16.1
Providing guidance to support students educationally and emotionally during the pandemic	65	12.6
Giving online educational materials for synchronous teaching	53	10.3
Free access to teaching materials (e.g., libraries, videos, songs)	25	4.9
Guidance from the IT department of MOEC	22	4.3
Not supported	9	1.8
Schools helped by the distribution of MOEC circulars (e.g., giving online guidance/instructions to teachers)	1	0.2
Teachers supported by their school colleagues and headteacher	7	1.4
<b>Total</b>	<b>514</b>	<b>100.0</b>

### 3.3. Student Challenges Associated with Online Teaching and Learning Environments

A total of 120 (39.6%) teachers identified that most of their students did not have IT equipment (such as computers, smartphones, etc.) at home, meaning that they were unable to constantly attend their online classes (see Table 8A). A total of 105 (34.7%) teachers disagreed that their students had access to broadband internet at home (see Table 8B).

Additionally, 103 (34.7%) teachers disagreed that their students had the necessary skills to participate in online learning activities (see Table 8C).

**Table 8.**

<b>Challenges Faced by Students during the COVID-19 Pandemic in Cyprus</b>		
<b>A. Student access to IT equipment</b>	<b>Frequency</b>	<b>Percentage</b>
Absolutely disagree	56	18.5
Disagree	120	39.6
Neither agree nor disagree	55	18.2
Agree	65	21.5
Absolutely agree	7	2.3
<b>Total</b>	<b>303</b>	<b>100.0</b>
<b>B. Student access to broadband and internet</b>	<b>Frequency</b>	<b>Percentage</b>
Absolutely disagree	40	13.2
Disagree	105	34.7
Neither agree nor disagree	85	28.1
Agree	65	21.5
Absolutely agree	8	2.6
<b>Total</b>	<b>303</b>	<b>100.0</b>
<b>C. Student skills necessary to participate in online teaching and learning</b>	<b>Frequency</b>	<b>Percentage</b>
Absolutely disagree	59	19.5
Disagree	103	34.0
Neither agree nor disagree	72	23.8
Agree	60	19.8
Absolutely agree	9	3.0
<b>Total</b>	<b>303</b>	<b>100.0</b>

### 3.4. How Online Teaching and Learning Affected Student Participation

A total of 143 (47.2%) participant teachers stated that the quick change between classroom-based and online teaching practices did not negatively affect the learning of students with no disabilities, whereas 149 (49.2%) teachers acknowledged that the transition negatively affected the learning of both students with learning disabilities and migrant students (see Table 9A–F). In particular, 149 (49.2%) participants acknowledged that the participation of students with no learning disabilities was negatively affected. More specifically, 79 (26.1%) participant teachers disagreed that students with learning disabilities were able to participate in online classes, while 84 (27.7%) absolutely disagreed. In total, 79 (26.1%) neither agreed nor disagreed, and only 57 (18.8%) agreed that students with learning disabilities could actively participate during online classes. Similarly, 188 (62.1%) teachers disagreed that immigrant students had the chance to participate in online classes, while only 39 (12.9%) teachers agreed that immigrant students could actively participate in online learning. A positive result was that 158 (52.1%) participants acknowledged that their students benefitted from the online teaching and learning environment because they were given constant formative feedback about the work they had to complete at home. At the same time, 122 (40.3%) teachers observed that student grades improved, while 117 (38.6%) indicated that summative assessments were negatively affected.

The survey prompted 128 (42.3%) participant teachers to agree that schools needed to urgently re-open and students needed to return to conventional classes, while 102 (33.7%) were unsure as to whether students should return to school due to the risk of COVID-19 contagion. Overall, as shown in Table 10, 230 (75.9%) participant teachers in Cyprus agreed with the notion of and need for emergency remote teaching, defined as reported below.

Table 9.

Participation of Students in Online Teaching and Learning Environments during COVID-19 in Cyprus		
<b>A. Participation of students with no learning disabilities</b>	<b>Frequency</b>	<b>Percentage</b>
Negative	94	31.0
Neutral	61	20.1
Positive	143	47.2
Not relevant	5	1.7
<b>Total</b>	<b>303</b>	<b>100.0</b>
<b>B. Participation of students with learning disabilities</b>	<b>Frequency</b>	<b>Percentage</b>
Negative	149	49.2
Neutral	42	13.9
Positive	100	33.0
Not relevant	12	4.0
<b>Total</b>	<b>303</b>	<b>100.0</b>
<b>C. Participation of immigrant students</b>	<b>Frequency</b>	<b>Percentage</b>
Negative	143	47.2
Neutral	44	14.5
Positive	69	22.8
Not relevant	47	15.5
<b>Total</b>	<b>303</b>	<b>100.0</b>
<b>D. Socio-emotional effects of the COVID-19 pandemic on students</b>	<b>Frequency</b>	<b>Percentage</b>
Negative	126	41.6
Neutral	48	15.8
Positive	122	40.3
Not relevant	7	2.3
<b>Total</b>	<b>303</b>	<b>100.0</b>
<b>E. Effect on formative student feedback</b>	<b>Frequency</b>	<b>Percentage</b>
Negative	98	32.3
Neutral	33	10.9
Positive	158	52.1
Not relevant	14	4.6
<b>Total</b>	<b>303</b>	<b>100.0</b>
<b>F. Effect on summative student assessment</b>	<b>Frequency</b>	<b>Percentage</b>
Negative	117	38.6
Neutral	45	14.9
Positive	122	40.3
Not relevant	19	6.3
<b>Total</b>	<b>303</b>	<b>100.0</b>

Table 10.

Emergency Remote Teaching		
	Frequency	Percentages
Absolutely disagree	1	3.0
Disagree	27	8.9
Neither agree nor disagree	45	14.9
Agree	152	50.2
Absolutely agree	78	25.7
<b>Total</b>	<b>303</b>	<b>100.0</b>

“A temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances [...] involves the use of fully remote teaching solutions for instruction or education that would otherwise be delivered face-to-face or as blended or hybrid courses and that will return to that format once the crisis or emergency has abated. The primary

objective in these circumstances is not to re-create a robust education ecosystem but rather to provide temporary access to instruction and instructional supports in a manner that is quick to set up and is reliably available during an emergency or crisis" (Hodges et al., 2020, online) [36].

#### 4. Discussion

Consistent with previous research findings, the survey in Cyprus highlights the experiences and the challenges regarding online teaching that both teachers and students faced as a result of lockdowns and school closures in the first phase of the COVID-19 pandemic (March–September 2020).

##### *4.1. How Did Participant Teachers Evaluate Their Skills and Competences to Teach Online during the First Phase of the Pandemic?*

In alignment with previous research findings, 303 Cypriot participant teachers in this study were willing to use ICT technology in their teaching practice (Ertner, 1999; Palloff and Pratt, 2007; Herold, 2017) [2–4] despite the majority (148 teachers) having only basic ICT knowledge. A total of 194 teachers tended to use online platforms every day, and 174 tended to upload online teaching materials, with 162 teachers tending to use the online platforms suggested by MOEC, such as Microsoft Teams, almost every day. Contrary to research evidence suggesting that teachers may be less willing to use ICT in their discipline if they have poor technology-related knowledge and skills (Kim, 2016; Glasel, 2018) [5,6], during these unprecedented times, even teachers with basic ICT knowledge used materials made available by MOEC and consulted free-access online materials on how to plan online educational activities because they recognised their students' need to continue learning during the COVID-19 pandemic.

Consistent with previous research evidence (Ertmer, 2005; Tondeur et al., 2017; OECD, 2019) [8–10], the participant teachers in this study highlighted the need to receive further training in designing online teaching practices. Acknowledging the unavailability of student–teacher and peer–peer interactions in the physical classroom and the related benefits (Malecki and Elliot, 2002; Cunha and Heckman, 2007; Salmons, 2020) [15,16,25], participants compensated by providing regular formative feedback related to the work that the students had to perform individually at home.

##### *4.2. What Challenges in Relation to Online Teaching Did Teachers Face?*

Similar to previous research findings (Ng, 2007; Silman, 2013; Besser et al., 2020; Winter et al., 2021) [27–29], the wellbeing of teachers and students was found to have been negatively affected. In total, 200 teachers in Cyprus stated that they had been negatively affected by the radical shift to online teaching practices, with 196 participants feeling stressed, whereas 69 teachers were upset because of increased workload, lack of knowledge regarding planning online activities, and having to work from home. The teachers also acknowledged that their students were stressed due to staying at home and attending online home teaching. In line with previous research findings (Leidner and Järvenpää, 1995; Palloff and Pratt, 2007; Brown, 2019) [3,12,17], 120 teachers indicated that many of their students did not have access to technological equipment or the internet; moreover, 103 participants thought that many of their students did not have the necessary skills and knowledge to access online teaching platforms and were thus unable to participate in online sessions.

##### *4.3. What Impact Did Online Teaching Practices Have on Learning in Vulnerable Groups of Students?*

In agreement with previous research findings (Garrison, 2017; Brown, 2019; Salmons, 2020; Winter et al., 2021) [17,19,25,27], which suggest that students benefit from attending conventional classes, 230 participant teachers highlighted the need for all students to urgently return to school. Teachers worried that, had online teaching continued, their students, especially those deemed vulnerable, would have continued to be academically

disadvantaged. Normal classroom interaction between teachers and students was unavailable during lockdown, and the survey showed, as expected, that teachers interacted even less with vulnerable groups of students in online classes. In total, 149 teachers agreed that the participation of all students had been negatively affected. A total of 84 teachers highlighted that their interactions with students with learning disabilities were unviable, and 188 teachers acknowledged the difficulties faced by their immigrant students in actively participating in online teaching and learning processes, not only because these students did not know the Greek language well but also because they lacked home support and access to technology. Further, as a result of teachers' lack of ICT knowledge (O'Hanlon, 2005; Efriana, 2021; Gurung, 2021) [11,18,24], students did not have many opportunities to interact with their peers during online sessions. However, those teachers who acknowledged the benefits of teacher–student and peer–peer interactions (Malecki and Elliot, 2002; Cunha and Heckman, 2007) [15,16] for keeping students motivated, aimed to track student progress by giving constant formative feedback on homework activities.

## 5. Conclusions

Currently, schools are expected to use technology to enhance the provision of education to their students. It has been identified that the successful use of ICT entails both teachers and students having access to computers and internet connection along with having the necessary skills and knowledge to use such technology (Ertner, 1999; Palloff and Pratt, 2007; Herold, 2017) [2–4]. School closures during the COVID-19 pandemic accelerated the rate of teacher engagement with technology and provided students with opportunities to gain skills related to ICT. However, the findings of research in Cyprus (this study) and elsewhere (Brown, 2019) [17], which indicate that many students were passive and distracted during online lessons, highlight the need for students, particularly those in vulnerable groups, to be supported regarding self-discipline, motivation, self-direction, and time management. These are useful skills not only for students' online learning but also for their further education and the world of work. Additionally, the Cypriot survey confirms the need for teachers to access further training to adapt their practices and thereby better meet students' needs, the need to design an attractive learning environment that focuses on critical learning rather than knowledge-based learning (Gurung, 2021) [18], and the need for teachers to be trained in using special software to meet the needs of vulnerable students (O'Hanlon, 2005) [24].

This study of the COVID-19 pandemic's effect on education in mainstream schools in Cyprus specifically identifies the following needs:

- To ensure that all students, particularly those identified as vulnerable, can make up for the “learning loss” they experienced during lockdown. Thus, it is important to improve the availability of learning technology to all students, especially students with special educational needs and/or disabilities (SEND), to whom digital technologies can provide useful support, expressly when such technologies form part of a coherent and overarching learning programme.
- To ensure that all students' needs and voices are taken into account in policy and decision making and that children are actively involved in designing appropriate digital literacy curricula and practices that equip them with the appropriate knowledge and skills to safeguard their right to access digital environments (Council of Europe, 2017) [44].
- To ensure that teachers are able to teach online and can respond effectively to the online teaching changes required to meet the needs of their students, especially in cases of emergency remote teaching. It is also important to improve teachers' digital competences across all education sectors and ensure that they are well-trained in the pedagogical approaches best suited to online learning and blended models.

To sum up, school closures in Cyprus provided a unique opportunity for teachers to familiarise themselves with the educational use of e-learning technologies. This was an important first step towards the digitisation of education in mainstream schools in Cyprus.

Moreover, the Ministry of Education, Sports, Youth, and Culture (MOEC) highlighted the need to develop policies to train teachers in using e-learning technologies in both distance- and blended-learning settings post-COVID-19. As discussed, the findings of the current study coincide with those of other international studies. The findings highlight the need for education systems in Cyprus and other countries globally to increase teachers' readiness for online education. It is important to provide teachers with high-quality pre-service and in-service training opportunities to develop skills to use e-learning tools effectively and recognise the potential and constraints of new, virtual, and multimodal learning environments (Kress and Selander, 2012) [45]. Drawing on inclusive student-centred pedagogies will enable teachers to develop virtual strategies for promoting teacher-student communication and interaction, peer-peer interaction, and collaborative work. Future teacher training needs not only to emphasise strategies for providing timely and ongoing constructive formative feedback to online learners but also to enable informed "selections of technologies, practices, genres, and assessments that are apt to facilitate students' meaningful, agentic, creative and enjoyable, learning journeys" (Sidiropoulou, Christodoulidou, Topalidis, 2021) [46] (p. 150). Lastly, it is essential to highlight the need for ICT infrastructure to be strengthened worldwide to ensure the basic right to education of all students, including vulnerable groups, and the right to equal access to the internet and digital learning resources (Unescochair, online) [47].

## 6. Limitations

While this is a relatively small study, it offers useful information about teachers' use of technology in online teaching in Cyprus. Our findings shed light on teachers' experiences during COVID-19 lockdowns and identify the challenges this population faced, which can inform further training needed for effective online teaching. The unprecedented COVID-19 pandemic excluded opportunities and time to interview teachers, and the findings reported in this study rely on survey data alone. However, data are considered accurate when participants understand the questions they are presented with, have a strong sense of anonymity, and have no fear of reprisal (Besser et al., 2020; Ng, 2007) [28,29]. In this study, since, during lockdown, teachers could be more easily reached than students, only teachers were asked to identify and rate the impact of online teaching on their students' learning. Hence, future research related to online teaching and its impact on learning should include other data collection instruments, such as interviews, and explore students' experiences and beliefs.

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## Appendix A

Table A1.

Cypriot Teachers' Demographics		
Participants	Frequency	Percentage
Kindergarten teachers	7	2.3
Primary teachers	50	16.0
Special needs education teachers at kindergartens and primary schools	19	6.3
Secondary teachers	125	42.8
Secondary teachers' subjects	Frequency	Percentage
Biology	5	1.7
French	1	0.3
Gymnastics	2	0.7
Electrical engineering	2	0.7
Religious studies	1	0.3
Music	3	1.0
Economics	2	0.7
Russian	1	0.3
DIY	3	1.0
Art	1	0.3
Psychology	1	0.3
Greek language	69	22.8
Maths	19	6.3
Physics	5	1.7
ICT	5	1.7
English	9	3.0
No response	92	30.4
<b>Total</b>	<b>303</b>	<b>100.0</b>

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