

## Article

# Let Students Talk about Emergency Remote Teaching Experience: Secondary Students' Perceptions on Their Experience during the COVID-19 Pandemic

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**Abstract:** This research aimed to comprehend the impact of the first school closure on secondary education in Cyprus from students' perspectives. Through the administration of an online survey with both closed and open questions, the study investigated the main issues and challenges that students experienced during their abrupt transition from face-to-face to emergency remote education and their main worries and concerns during this period, as well as their perceptions regarding the effectiveness of the teaching and learning process followed during the distance education period. The study also elicited students' suggestions, based on their experiences from the lockdown period, on improving instruction in case of further lockdown(s) and in the post-COVID-19 era. Three hundred twenty-two (322) students of both upper and lower secondary education participated in the study. The data from closed questions were analysed using descriptive and inferential statistics, and for the data from the open questions, a qualitative thematic analysis approach was followed. The valuable insights gained from this study illustrate how important it is for educators and educational policymakers to give voice to students, closely listen to what learners felt worked and what did not during the period of remote learning, and develop plans and policies that incorporate their feedback.

**Keywords:** COVID-19; students' perception; access and accessibility; instructional practices; social aspects of schooling; emergency remote teaching



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## 1. Introduction

The outbreak of the COVID-19 pandemic in 2020 resulted in a sudden and dramatic change in almost all spheres of life. The impact on the education landscape was huge and immediate. The containment and mitigation strategies adopted by national governments in many parts of the world forced schools and universities across the globe to close their premises [1]. This led to an unprecedented shift to emergency remote teaching to minimise learning disruptions, and to the wide adoption of digital technologies. Educators worldwide had to rapidly adapt and transition to online forms of instruction, digitalising their teaching practices and assessment processes.

Despite facing a steep learning curve, teachers reacted with resilience and creativity, facilitating the fast and effective shift from conventional to online classes. They devised innovative, technology-based solutions to support their students' remote participation and learning. This swift move from the conventional to the digital world, and the adoption of new practices, pedagogies, and methodologies teachers might have never thought of in the past [2] is admirable if contrasted to the slow pace of adoption of new technologies by educational institutions, and the limited transformation characterising mainstream

classrooms prior to the pandemic. Although educational systems around the world had, in past decades, engaged in many initiatives aimed at transforming teaching and learning practices and processes through the embracement of contemporary digital technologies, these initiatives tended to be short-lived or limited in scale, and to have marginal impact at system levels [3]. Despite many excellent examples of innovation, changing teaching practices was proving much more difficult than originally anticipated. Studies conducted at all educational levels indicated that while most educators tended to have positive attitudes towards the instructional use of contemporary technologies, many of them lacked appreciation of the true potential of contemporary technologies for enhancing, or even transforming, the teaching and learning process [4]. The reported levels of use of different technological tools for educational purposes lagged far behind their levels of use in daily life or in professional contexts outside of teaching [2]. The COVID-19 crisis, however, has been acting as an accelerator for change, transposing educational infrastructures and services into a new reality. It has made the potential of digitising education widely visible and understood, as it put educators in a situation where they had little choice but to use internet technologies, since they were the only medium available for teaching and learning [3]. This unique situation has provided a rich learning experience for educators and the opportunity to come up with new ideas and strategies for organising their teaching differently. It has spurred the employment of many innovative, technology-driven approaches to teaching, learning, and assessment (e.g., virtual laboratory approach, flipped classroom model, etc.), with potential longer-term benefits for the education landscape.

Nonetheless, along with the generation of unique opportunities for digital transformation of education and training, the pandemic has highlighted various technical, legal, and practical shortcomings and loopholes of our current educational system when moving teaching and learning into the digital world. It has exposed important challenges that need to be addressed in order to unlock the true educational potential of digital technologies and to make distance, online, and blended learning effective, inclusive, and engaging for all learners: inequitable access to technology, lack of accessibility features, limited internet access, low bandwidth and connectivity issues, concerns around student privacy, limitations in institutions' infrastructure and digital learning resources, lack of digital readiness of students, teachers, and educational systems, lack of online laboratory environments, etc.

The study reported in the current article sought to understand, from the perspective of secondary level students (ages 12–18), the impact of the first school closure on the school sector in Cyprus. Specifically, the study investigated Cypriot secondary education students' experiences and views on the distance education period that followed schools' lockdown due to the COVID-19 pandemic in March 2020. It explored students' perceptions regarding the effectiveness of the process followed during the abrupt transition from face-to-face to online instruction and compiled their suggestions for improvement. Specifically, the study addressed the following research questions:

1. What issues and challenges did students face in their transition from face-to-face to emergency remote education?
2. Which were students' main worries and concerns during the emergency remote learning period?
3. What is the impact of the demographic characteristics of students (educational level, type of school, level of familiarity with technology) on their experience?
4. Which instructional practices (synchronous or asynchronous) and technological tools are identified by students as helpful to their learning during emergency remote learning, and which of those would they like their teachers to continue using in the post-COVID-19 era?

## 2. Background

### 2.1. Cypriot Educational System

In Cyprus, school-level education is provided through preschool and preprimary schools, primary schools, secondary general schools, and secondary technical/vocational

schools. The public educational system is highly centralised, with headmasters and teachers appointed, transferred, and promoted by the Educational Service Commission. The Ministry of Education, Culture, Sports and Youth (Ministry of Education henceforth) is responsible for the formulation of the curriculum as well as for the prescription of the syllabi, curricula, and textbooks. Public schools are mainly financed from public funds, with headmasters and teachers appointed, transferred, and promoted by the Cyprus Educational Service Commission. Private schools, on the other hand, are owned and administered by private individuals or bodies. They raise their funds primarily from tuition fees, while some also receive a small state subsidy. Private schools have their own curriculum, syllabus, and tuition fees, but are liable to supervision by the Ministry of Education.

Compulsory schooling in Cyprus begins with preprimary education (ages 4<sup>2</sup>/<sub>3</sub>–6) and primary education (ages 6–12). In the public sector, secondary general education is offered to students aged 12 to 18 (Table 1). This is achieved through two three-year cycles—gymnasium (middle school; ages 12–15) and lyceum (high school; ages 15–18). Attendance in public schools is free of charge for all classes and compulsory until the age of 15 or the completion of the first cycle, whichever comes first. Although high school attendance is not mandatory by law, only a very small proportion of students drop out of school after gymnasium. In the first year of the lyceum cycle, students choose one of four Subject Orientation Groups (SOGs), which include a default combination of subjects, leading to six corresponding educational directions in the second and third years of lyceum (see Figure 1). Students in the public sector also have the alternative option of following the technical direction for their second three-year cycle by attending secondary technical/vocational schools.

**Table 1.** Public school students in Cyprus in 2019–2020 [5].

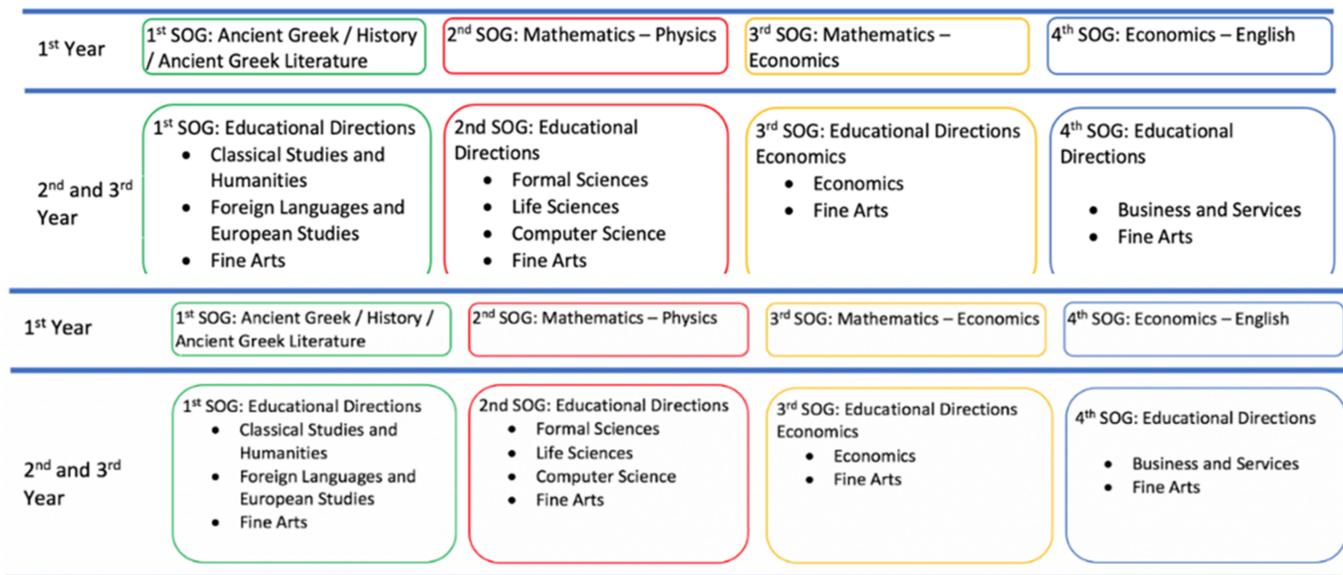
	Year	Male	Female	Total	Classes
Gymnasium	1	3958	3704	7662	348
	2	4069	3781	7850	349
	3	3731	3643	7374	340
Gym. Total		<b>11,758</b>	<b>11,128</b>	<b>22,886</b>	<b>1037</b>
Lyceum	1	2645	3289	5934	322
	2	2338	3104	5442	324
	3	2552	3083	5635	334
Lyc. Total		<b>7535</b>	<b>9476</b>	<b>17,011</b>	<b>980</b>
Total		<b>19,293</b>	<b>20,604</b>	<b>39,897</b>	<b>2017</b>

Private secondary education in Cyprus is mainly geared towards general education, though some private schools do also incorporate technical/vocational education. Similarly, to the public sector, schooling consists of two cycles (lower and upper secondary) and extends over a period of six years (ages 12–18) or seven years (ages 12–19).

Currently, there are 64 gymnasiums, 38 lyceums, and 19 technical/vocational schools in Cyprus. There are also 39 secondary private schools [6].

## 2.2. Spring 2020 Schools Lockdown

Lockdown in Cyprus started on 11 March 2020, with schools in the capital of Nicosia. Two days later, all other schools on the island were also instructed to close down. The first lockdown was abrupt, catching off-guard most public schools, which, having limited infrastructure and no official platform for communication, were unable to swiftly shift to distance learning. The Ministry of Education decided to use Microsoft Teams as the official online platform for the online education in public schools. The whole process of signing in the students to the platform took several weeks.



**Figure 1.** The four subject orientation groups in Lyceum.

Furthermore, many of the teachers had never used Microsoft Teams in the past and were not trained for online instruction up to that point. The first training on distance teaching was offered in the middle of March to two teachers per school, during which they received basic training on the use of MS Teams. These teachers then acted as multipliers in their school community, disseminating the information they received during the training to their colleagues and providing them with IT support whenever required.

Nonetheless, to help their students keep up with their classes and to cover as much as possible of their already overburdened curriculum, many Cypriot teachers overcame the various technical and pedagogical challenges they encountered, and through personal effort and initiative, managed to start teaching online within days of the start of the lockdown. While the Ministry of Education was working hard towards the direction of getting online education going, in the meantime, several teachers started having regular contact with their students, and offering their classes online using other temporary platforms such as Zoom. This is supported by the results of the survey study presented in this article, since 52% of the participating students indicated that they started receiving online teaching material and/or classes within the first week of the lockdown. This was despite the fact that, as explained in the next paragraph, it took several weeks before all students officially got back into their classes via online teaching.

Students in Cyprus went into their Microsoft Teams online classes in stages. First, the 3rd-year lyceum students went online (23 March 2020), followed by students in the 1st and 2nd year of the lyceum (26 March 2020). It was not until a month later (27 April 2020) that online classes officially began for gymnasium students. Lyceum students attended only concentration courses related to their orientation group (see Figure 1).

Initially, students in lyceum had about 4 h of online classes per day, until gymnasium joined the online education (27 April 2020), at which point the teaching load was split between gymnasium and lyceum students to 2 h per day for each group. This was done to accommodate households with two or more children attending gymnasium and lyceum. According to a questionnaire administered to students by the Ministry at the start of the pandemic (18 March 2020), there were several cases of students who did not have access to a technological device (PC or tablet) or to the internet. The Ministry tried to resolve the issue of limited access to technology through measures such as the one just mentioned, and through the provision of tablets to 12,958 (based on the Minister's of Education statement as reported by "In-Cyprus—Philenews"—26 January 2021) students lacking access to a technological device.

When the pandemic conditions of the country gradually improved, schools reopened for 3rd-year lyceum students (11 May 2020), and later for the gymnasium students (21 May 2020), all with an alternating physical presence. Students in the 1st and 2nd year of lyceum did not return to school, and all their classes continued online until the end of the school year.

During the current school year (2020–2021), lyceums closed down again in the middle of December 2020, and gymnasiums right after the Christmas break. The 3rd-year lyceum students returned to their classes on 8 February 2021, while 1st- and 2nd-year lyceum students returned on 1 March 2021, and gymnasium students returned on 2 April 2021. During this second lockdown, the situation was much improved compared to the first lockdown. When the lockdown was announced, everything was in place to switch to online education, and only minimal problems were reported. During this time, a series of voluntary training sessions on Microsoft Teams were offered by Cyprus Pedagogical Institute regularly.

The study presented in this paper was conducted during the first lockdown. Figure 2 depicts the timeline of events that took place in the public school sector from the first lockdown in Cyprus on 11 March 2020 until the end of the school year on 26 June 2020.

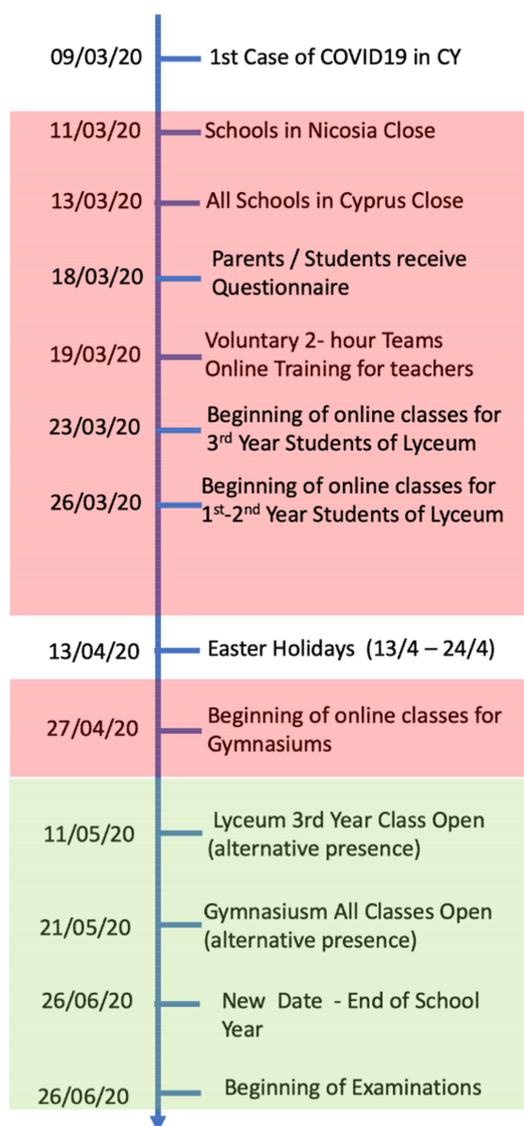


Figure 2. Schools in Cyprus during the pandemic—a timeline.

Private schools followed the guidelines set by the Ministry of Education concerning school lockdowns. However, unlike public schools, private schools were much more prepared to cope with the unprecedented challenges of the pandemic. In several private schools, teachers had received some training on distance education, and on the use of online platforms like Microsoft Teams, prior to the 11 March 2020 lockdown. As a result, teachers in these private schools were able to efficiently switch to online instruction within a couple of days of the lockdown. Moreover, private schools did not experience issues concerning student access to ICT and internet connections, since the vast majority of their students were of middle or upper socioeconomic status.

### 3. Methodology

#### 3.1. Instruments, Data Collection, and Analysis Procedures

To provide answers to the research questions, a survey instrument was designed by the study's multidisciplinary research team, which included educational practitioners and educational researchers from different fields. The survey design was based on the international literature and on other student technology surveys employed in previous studies (e.g., [7,8]). Most of the questions were closed-ended, requesting Likert-type ratings or multiple-choice responses. A few open-ended questions requiring text-based responses were also included, to allow respondents to express ideas difficult to place on a Likert-scale and obtain more comprehensive information.

The survey was divided into five sections as follows:

**Demographics:** Section 1 consisted of 7 questions, and it captured the demographics of the sample (gender, school year, type of school) and the level of familiarity and attitudes of the participants towards new technologies

**Equipment and functionality:** Section 2 included 7 questions about the equipment and personal space available, the platform used, and capturing the difficulties students were facing during the transition to emerging remote learning.

**Distance education and learning material:** Section 3 included 8 questions on students' reflections on the distance learning courses.

**Return to school:** Section 4 had 1 question on students' opinion on the use of technological tools they would like their teachers to continue using after returning to school.

**Open-ended questions:** Section 5 contained 4 open-ended questions regarding their feelings, concerns, major challenges.

The survey instrument was developed in Greek. After being pilot tested and revised based upon received feedback by secondary education teachers, it was posted electronically via Google Forms. An English version of the survey was also posted on Google forms for administration to students enrolled in private schools with English as the main language of instruction (for access to the English version of the survey instrument, see Supplementary Materials). The survey took about 20 min to complete.

After obtaining the approval of the Cyprus Centre of Educational Research and Evaluation, and the Ministry of Education, invitation messages explaining the purpose of the study and providing a link to the student survey were sent via email to head teachers/school directors of all public general education schools, and all private secondary education schools in the Republic of Cyprus. Technical and vocational schools were excluded due to the unique structure and various specialised courses of technical education. A different survey instrument was developed and administered to students in technical education. A publication describing the findings from that questionnaire is currently under preparation.

Headmasters/headmistresses were requested to distribute the student survey to the parents/guardians of their school's student population. Parents/guardians who consented to their child's participation in the study could then forward the student survey to their child for them to fill out. Participation was completely voluntary and anonymous. No identifying information was obtained from participants.

Data collection was conducted between May and June of 2020, i.e., a couple of months after the start of the general lockdown due to the COVID-19 pandemic (see Figure 3).

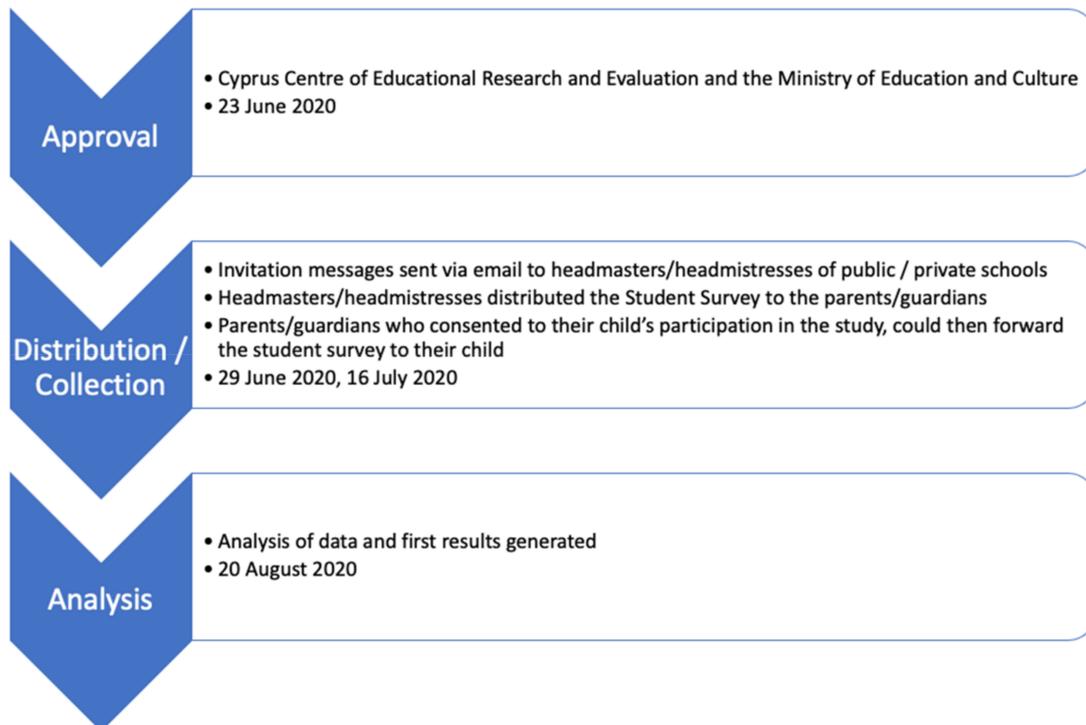


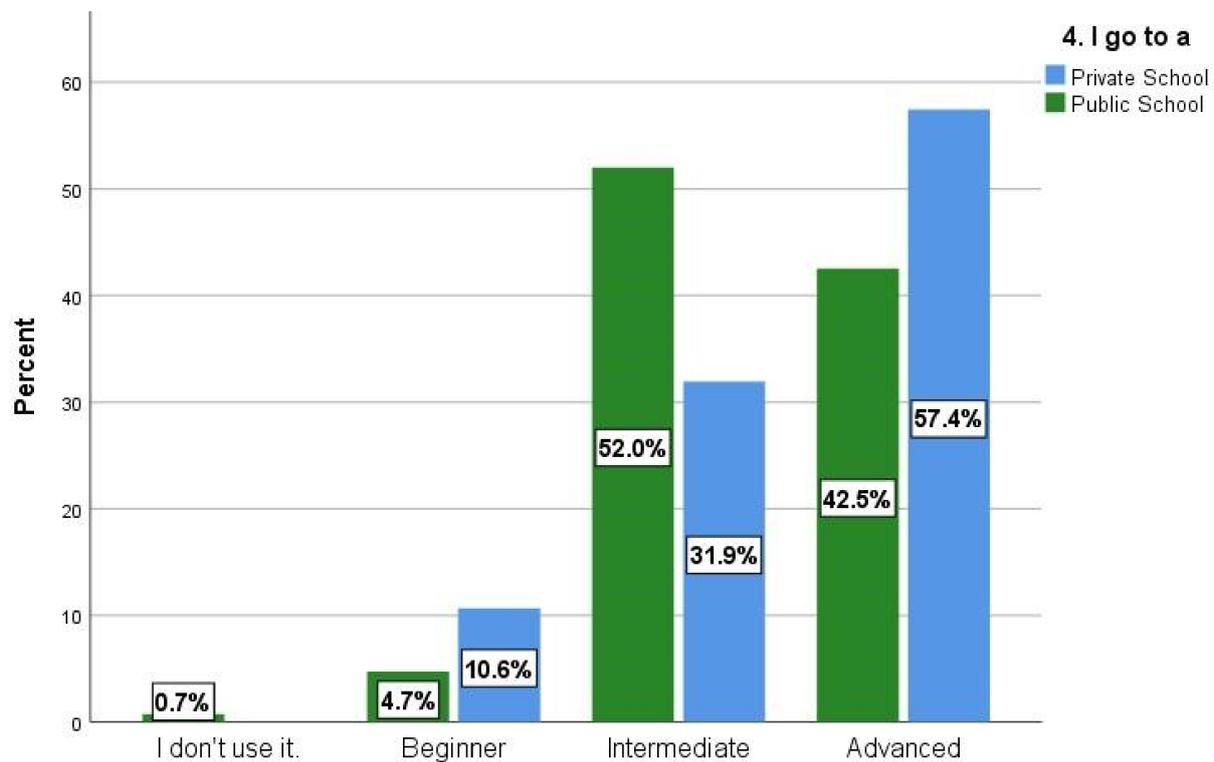
Figure 3. Survey process model.

Quantitative data obtained from the survey were analysed through SPSS using descriptive and inferential statistics to provide answers to the research questions. For the text-based responses, a qualitative thematic analysis approach was followed [9], during which data were coded and clustered as themes. The qualitative analytic software program Atlas.ti. assisted in the analysis of text-based responses. Linking the depth of qualitative data with quantitative breadth provided complementary information and a more holistic picture of students' experiences and perceptions concerning the process followed during the transition from conventional to online educational settings.

### 3.2. Participants: Demographic Characteristics and Technology Background

A total of 322 students participated in this study. Of the respondents, 72% ( $n = 231$ ) were female, and 28% ( $n = 91$ ) were male; 85% ( $n = 275$ ) were enrolled in public schools, and the rest in private schools ( $n = 47$ ). The majority of the participants (70.8%) were high school students (i.e., attended the upper secondary cycle).

The vast majority of participating students were familiar with technology and had positive attitudes towards its use. Only a very small proportion considered themselves beginners (5.6%) or stated that they were not using technology (0.6%). Forty-five percent (45%) rated their level of familiarity with technology to be at the intermediate level. At the same time, 49% of the students considered themselves to be at an intermediate level, while no student rated themselves as being at the expert level. As shown in Figure 4, there were some differences between public schools and private schools, with a higher percentage of students in the latter group considering their level of familiarity with technology to be at the advanced level (57.4% vs. 42.5%).



**Figure 4.** Level of students' familiarity with technology (self-statement).

Figure 4 illustrates students' responses to a related question asking them to select the statement best describing their attitude towards the use of new technologies in their daily life. A considerable proportion (42.2%) indicated that they tended to use new technologies when most people they knew of were already using them. However, only a small proportion stated that they were usually among the last people in their circle to use new technologies (10.9%), or that they were cautious about new technologies and used them only when necessary (3.0%). By contrast, around 45% of respondents stated either that they loved new technologies and were among the first to experiment with and use them (14.0%), or that they liked them and used them before most other people (29.8%). This percentage was much higher among private school students. While two-thirds of private school students (65.9%) indicated loving or liking new technologies and experimenting with them either among the first or before most people, the corresponding percentage for public school students was only 40%.

#### 4. Results

Findings from the students' survey have been organised into the following sections mirroring the survey's research questions:

1. Students' identified challenges during their transition from face-to-face to emergency remote-learning settings.
2. Students' main worries and concerns during the emergency remote-learning period
3. Instructional practices and technological tools identified by students as helpful to their learning and future use of these practices and tools.

The impact of students' demographic characteristics (educational level, type of school, level of familiarity with technology) was explored during the analysis. The cases in which this impact was found to be statistically significant are pointed out in the sections that follow.

#### 4.1. Students' Identified Challenges during Emergency Remote Learning Settings

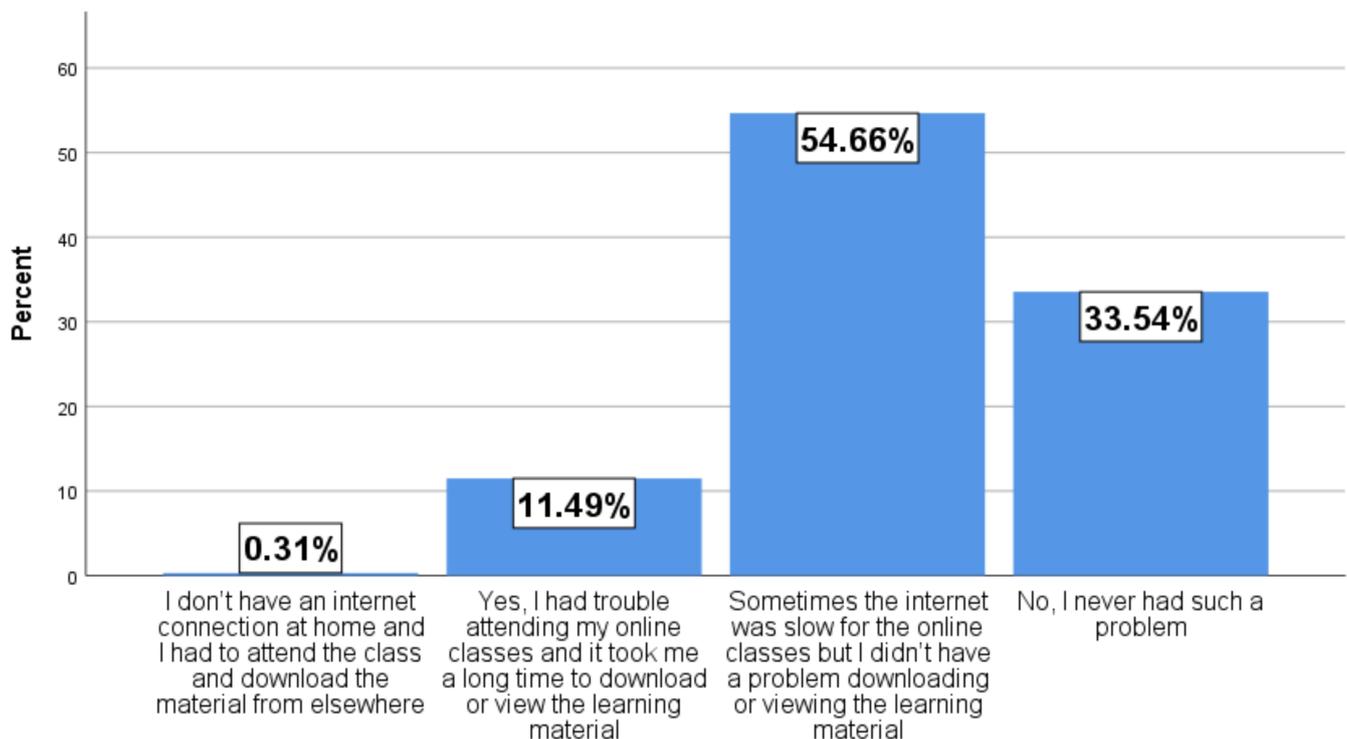
Students faced several challenges in the transition to emergency remote-learning. These challenges were related to infrastructure and technology access, home settings, their teachers' digital competencies, and the pedagogy of remote teaching.

##### 4.1.1. Issues Related to Infrastructure and Technology Access

Challenges were related to lack of access to devices, software communication tools, and reliable internet connection.

Remote learning requires infrastructure and technologies that are not commonly used in conventional (face-to-face) educational settings. Students need access to reliable devices and technologies. Several of the survey respondents stated that the following challenged them to a moderate or great extent in their transition to remote education: lack of access to a reliable digital device ( $n = 32$ ; 10.0%), lack of access to reliable software/communication tools ( $n = 36$ , 11.2%), and lack of access to a reliable internet connection ( $n = 64$ , 19.8%).

As seen in Figure 5, virtually all students had internet access at home. However, more than half (54.7%) reported that sometimes their internet connection was slow when attempting to join their online classes, but they did not have a problem downloading or viewing the learning material. About one-tenth of the students (11.5%) stated that they both had trouble attending their online classes and had to wait for a long time to download or view the learning material.



**Figure 5.** Extent of difficulty related to reliable internet connection at home.

The quantitative results were aligned with the qualitative results, as indicated by students' comments regarding the technical issues that they themselves, or their classmates, faced:

*S152: The platform should be faster since many times there were difficulties in opening files, etc.*

*S44: Some students, due to technical problems, did not have access to the lessons.*

*S23: The handouts I have to copy (200+ pages) was an issue since I do not have access to a printer at home.*

S185: *Because I use specific software for the lessons, the teachers could not provide me with differentiated material because they did not have access to the software at home to prepare it. I hope that if the lockdown continues in September, distance learning will be ready to meet the needs of each child (special education/speech therapy/differentiated material/attendant/interpretation, etc.).*

However, it seems that the level of students' familiarity with technology played a significant role in the transition to online schooling, especially when it came to the use of the learning platform. As shown in Table 2, students with a more advanced level of familiarity with technology faced fewer issues regarding the use of the platform during their transition to online learning. A chi-square test of independence indicated a significant association between students' level of familiarity with technology and how easy or difficult it was for them to get on the platform used for distance learning ( $\chi^2(6) = 39.619, p < 0.001$ ).

**Table 2.** A crosstab on how easy or difficult it was for students to get on the platform used for distance learning related to their level of familiarity with technology.

How Easy Was It for You to Get on the Platform Used for Distance Learning?	Level		Total
	Gymnasium (Lower SE)	High School (Upper SE)	
Very difficult (I had some major issues, and it took me a very long time to resolve them)	1.10%	2.60%	2.20%
Difficult (I had some issues, and it took me a long time to resolve them)	6.40%	8.80%	8.10%
Easy (I had some minor issues, but I resolved them easily)	50.00%	53.90%	52.80%
Very easy (I did not face any difficulties)	42.60%	34.60%	37.00%

Some of the students' responses to the open-ended questions included in the survey focused on the role of the Ministry of Education regarding technology infrastructure and access to it. What emerged from students' commentary was the belief that there was a lack of communication between the Ministry of Education and the student community, and the concern that this might lead to inequalities in education:

S230: *Social inequalities have not been eliminated. The Ministry of Education, as well as many sponsors, contributed to "equipping" students of all levels with electronic equipment, but still, many of the students do not have the necessary means to conduct online courses.*

S230: *The problems I mentioned above were pre-existed and came to the surface on the COVID-19 virus. I believe that your contribution will be of utmost importance in the feedback of the Ministry of Education, as there is, obviously, a lack of communication between the Ministry and the student community. (Both sides are responsible for this weakness).*

S34: *The Ministry should already have the necessary tools for online teaching and utilise them during these special circumstances.*

S112: *Teachers should already have the necessary training.*

S145: *The priority of a state must be the Education (and Health) of the citizens; nevertheless, our education system faces the problem of lack of funding and, consequently, inadequacy in logistical infrastructure. Social inequality is evident in this case, as schools in city centres face this problem to a lesser extent than other schools located in rural areas. Finally, all students should be provided with computers by the Ministry of Education, from the very first class of the High School since many students are unable to obtain them on their own.*

#### 4.1.2. Having Appropriate Home Settings to Access and Participate in Remote Instruction

During the COVID-19 emergency remote-education period, students' learning settings were constrained to their homes. Due to this fact, home settings emerged as a critical factor in students' education during the pandemic. For example, it is common for families to share their digital devices that, during the period under study, were essential for students' participation in education.

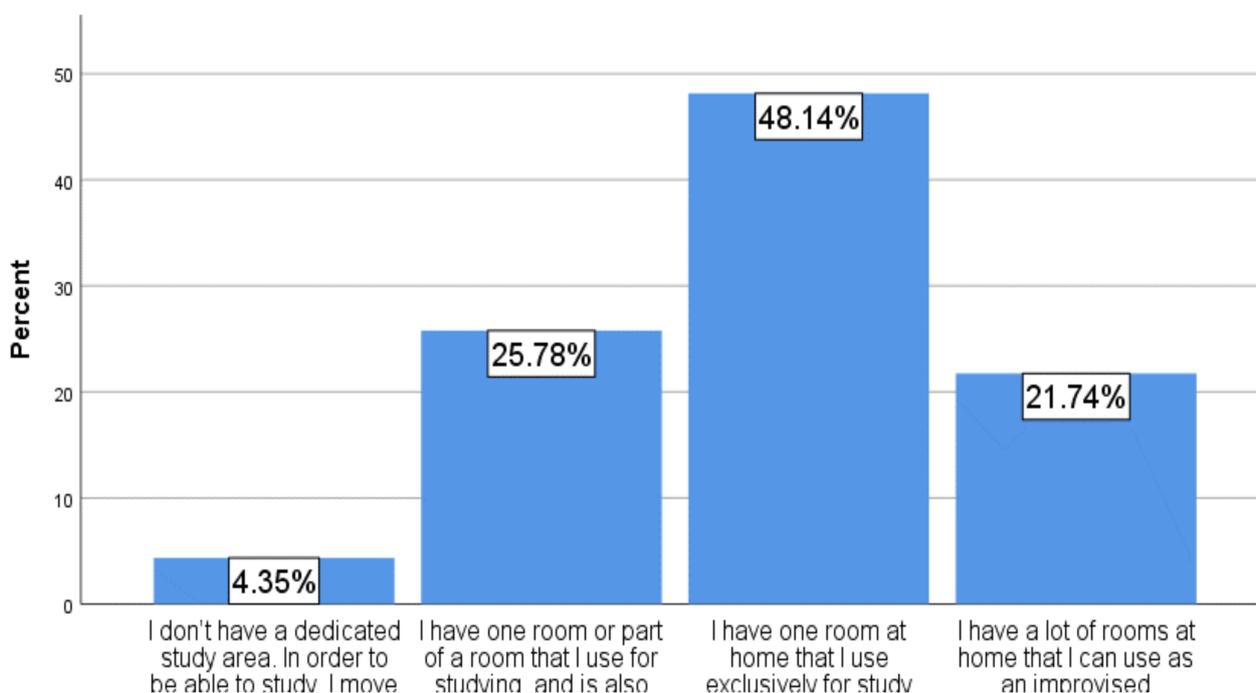
Based on our results, half of the students in our study (51.2%) owned a personal computer or laptop, and almost one-third (27.0%) owned a tablet (Table 3), while 40%

shared a PC and/or laptop with other members of the family, and around a third (36.3%) shared a tablet. Almost all students (93.5%) owned a personal smartphone.

**Table 3.** Students’ response on what type of technology they owned.

	PC/Laptop	Tablet	Smartphone
We do not have one at home	4.34%	26.71%	0.62%
I have access to it, but it belongs to other members of my family	3.73%	9.94%	1.55%
I share it with other members of my family	40.68%	36.33%	4.35%
It is used only by me	51.24%	27.02%	93.48%

Another influencing factor was the space that students used to conduct their educational activities (e.g., study, participation in online classes). Almost 70% of the students stated that they had multiple rooms in their house or a single room that they could use as an improvised classroom or an office (see Figure 6). Unfortunately, one in three students either had to use a room or part of a room that was also used for other purposes (25.8%) or did not have a dedicated study area at all (4.6%).



**Figure 6.** Responses on the space that students used to conduct their educational activities.

In addition to the challenges related to students’ access to infrastructure, another main and very crucial challenge identified by the students was teachers’ lack of familiarity with e-learning technologies and their instructional uses.

#### 4.1.3. Teachers’ Level of Familiarity with E-Learning Tools and Pedagogy

Teachers’ lack of familiarity with e-learning tools and online pedagogy was considered by almost half of the students (49.7%) as a serious issue that negatively affected, to a great or moderate extent, their transition to remote schooling. Based on the results, teachers’ familiarity with digital education tools and their use affected more the students of upper secondary education (Upper SE) (57%) than the students of the lower secondary education (Lower SE) (31.9%). This difference seems to be reasonable, given the more challenging concepts and curriculum taught in Upper SE, the pressure felt by teachers of Upper SE to cover all the course material so as to adequately prepare students for the university

entrance exams they were to take at the end of secondary school, as well as the fact that teachers knew that it would be extremely difficult to make up for lost time in Upper SE due to very strict time limits in relation with the subject matter included in the curriculum.

Due to this, students stressed the need for teachers' training in digitally enhanced learning and in distance education pedagogy:

*S29: Teachers need to modernise and have more transmissibility. In addition, they need to change their mindset and adapt to modern training requirements.*

*S165: If only online education continues, teachers should be better trained to develop their transmissibility.*

*Also, several of them should be more direct and humane with the students.*

*S230: Furthermore, it is necessary to further train teachers, and in the use of computers, but mainly in the proper use of the Microsoft TEAMS platform, for the use and management of which students were not given the necessary instructions. My biggest concern is that if the virus is rekindled and measures are taken, distance education will not be able to respond effectively to the new challenge and replace the traditional form of teaching. As a result, students will not be properly prepared.*

Teachers' lack of familiarity with digital learning environments and digital technologies seemed to be one of the elements connected to students' preference for face-to-face classes. Three-fourths of the students (76.1%) expressed a preference for face-to-face instruction. It seems that this preference was stronger among students of Upper SE than students of Lower SE (see Table 4) at a statistically significant level ( $\chi^2(3) = 12.59, p = 0.006$ ).

**Table 4.** Students' personal preference to face-to-face teaching in relation to the school level.

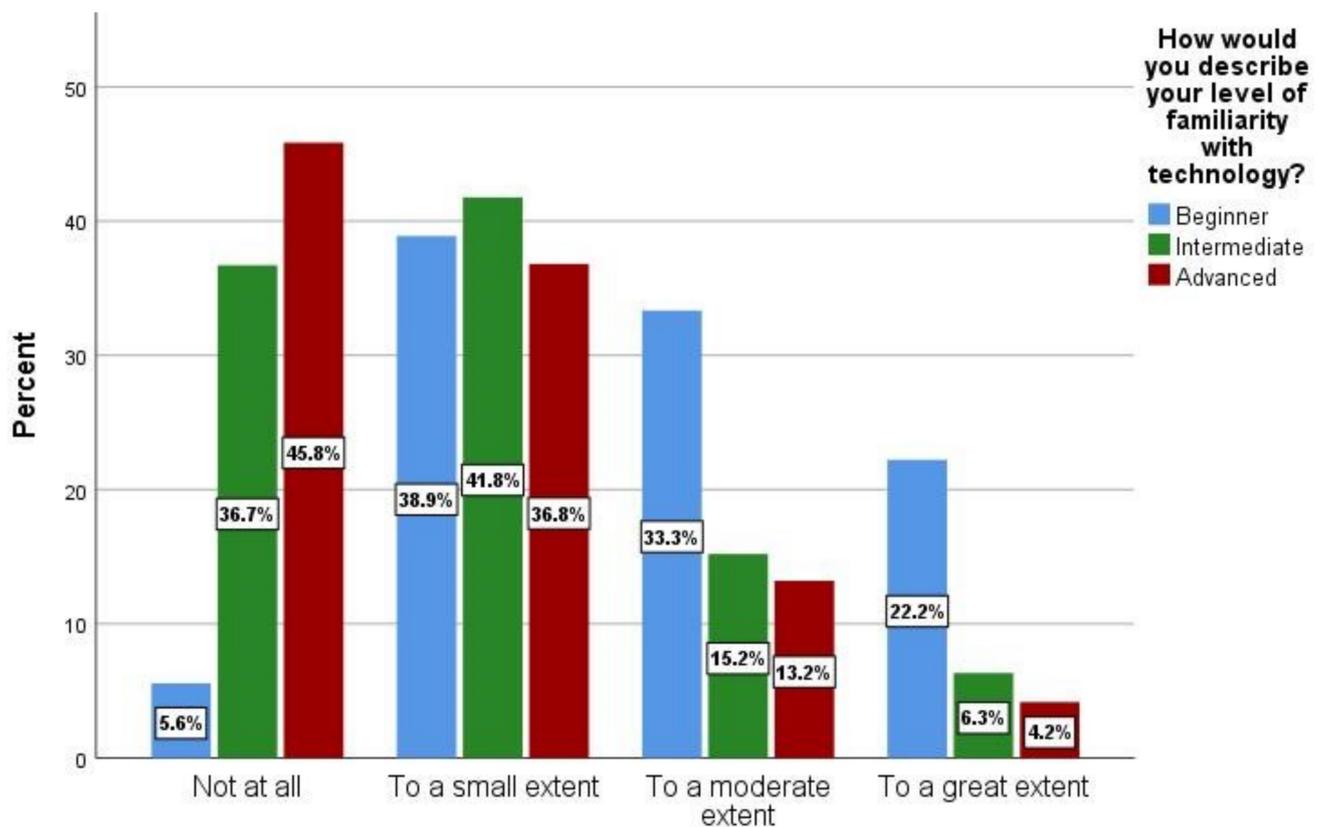
To What Extent Did Each of the Following Educational Issues Make It Difficult for You to Switch to Distance Learning? Personally, I Prefer Face-to-Face Classes	Type of School		Total
	Public School	Private School	
To a great extent	48.00%	36.20%	46.30%
To a moderate extent	31.30%	21.30%	29.80%
To a small extent	14.20%	25.50%	15.80%
Not at all	6.50%	17.00%	8.10%

This might be attributed to the ways students experienced teaching in emergency remote settings. Participants mentioned that they could not concentrate during class (49.7%), and/or that they could not ask as many questions as they wanted or discuss with their teacher (41.6%). Around a quarter agreed to a great or moderate extent that they found some of the activities to be hard (see Figure 7).

<i>To a great or a moderate extent</i>	
Personally I prefer face-to-face classes	76.1%
I couldn't concentrate during class	49.7%
I couldn't ask as many questions as I wanted or discuss with my teacher	41.6%
Some activities were hard for me or I couldn't understand what I had to do.	26.1%
It was not clear what the teacher was asking me to do during the online class session, or for homework	21.4%

**Figure 7.** Factors that influenced students' participation during the emergency remote-teaching period to a great or moderate extent.

About 20% of the students faced difficulties, to a great or moderate extent, in understanding teachers' instructions about in-class activities and/or homework. The latter seems to be the only of the above-mentioned difficulties that was associated with students' level of familiarity with technology (see Figure 8) at a significant level ( $\chi^2(6) = 20.15, p = 0.003$ ). This finding implies that it was more difficult for students with less familiarity with technology to participate in tasks during the lesson or do their homework than the more familiar with technology students.



**Figure 8.** Responses on the extent that online settings made it difficult for students to understand clearly what the teacher was asking from them during the online class session or for online homework, presented by their level of familiarity with technology.

The scarcity of interaction and teamwork also emerged as one of the students' main challenges connected to these findings. Participants commented on ways that might have helped to improve the remote-learning experience for them:

S304: *Having the chance to participate in smaller groups of students, would be a better way to understand the lessons.*

S21: *Making the lesson more interactive and cooperative so as to encourage more participation and engagement.*

In other words, one of students' main concerns was in relation to the effectiveness of their learning in emergency remote-education settings, which is discussed in the next section.

#### 4.2. Students' Concerns during the Emergency Remote Teaching

The qualitative results indicated that students were seriously concerned regarding the characteristics and effectiveness of distance education (at least in the way they experienced it for the first time) in comparison to face-to-face education.

#### 4.2.1. Students' Concerns Regarding the Effectiveness of Learning during Emergency Remote Teaching

Forty-four ( $n = 44$ ) of the students pointed out that distance education was not effective in terms of learning and assessment.

Students considered instruction in remote settings to be less satisfactory, less meaningful, and less structured than face-to-face instruction. The following extracts are indicative of students' concerns regarding the effectiveness and impact on learning of remote teaching settings:

*S10: Despite the effort made for the best education conditions, distance education is not satisfactory enough, as it is a less-effective method than personal study.*

*S152: Because online education is much more "relaxed" than face to face education, I believe that we have not been able to have essential lessons and acquire the necessary knowledge.*

*S151: To be honest, I'm a little worried about my own knowledge and my own benefit as paying attention and learning from online lessons is not the easiest thing to do.*

However, it is important to point out that students' perspectives regarding the effectiveness of learning might also be related to the lack of visual contact with their teachers (due to personal data protection laws), which emerged as an essential challenge in our findings. For example, as one student commented, "*The body language helps me a lot to understand the other people (my teachers in this example), so not having this chance was hard for me to understand some lessons*". Another reason that may have contributed to this perspective was the mindset that students sometimes experienced when using social media and technology during their online classes. Under normal circumstances, students were not allowed to use any smartphone devices and social media during their face-to-face classes. When the entire school went online, students had to use such devices and technology platforms for their classes, homework, and communication. Mind-wandering often leads to performance and accuracy errors during activities that are demanding and require concentration [10]. Another aspect related to teaching that students highlighted as ineffective was the reliability of their assessment during this period. They pointed out that the assessment methods used did not accurately reflect their efforts or their performance.

*S22: For the evaluation of the students in the second semester, he (the Minister of Education) publicly stated that participation in distance learning will not be included.*

*S54: I feel that online lessons do not represent my true performance as a student.*

*S214: The meritocratic grading.*

*S228: Unfair scores/ratings to those who made no effort/did not attend online classes while others were consistent.*

This finding might be linked to the Ministry of Education's stance towards students' assessment during that period. The Minister himself pointed out on several occasions that students' participation in online sessions was not compulsory, that remote teaching would be used for revision purposes and for covering new material upon the discretion of each school, and that the final exams would be cancelled. The Ministry's directives might have influenced teachers' assessment practices, forcing them not to consider students' level of attendance and participation in online sessions when assigning grades.

#### 4.2.2. Students' Concerns Regarding Lack of Socialisation during Emergency Remote Teaching

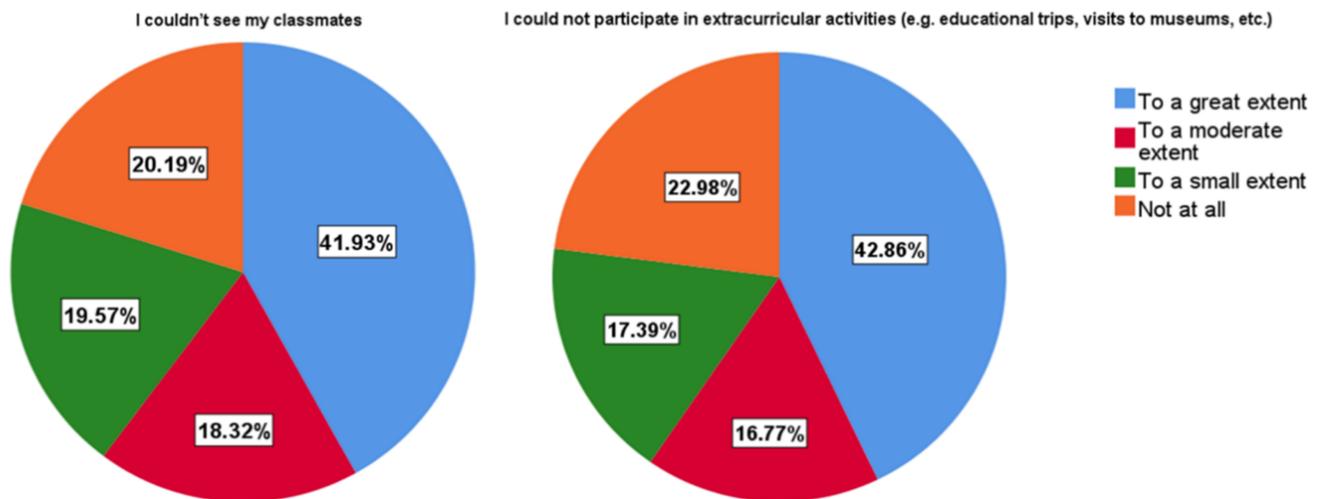
A main concern pointed out by students is that distance education takes away the "socialisation" element of brick-and-mortar schools. Students argued that issues such as their inability to see their classmates (60.2%) or participate in extracurricular activities (59.6%) made the switch to remote education difficult for them (Figure 9).

These findings aligned with students' responses to the open-ended questions:

*S36: I do not want everything to be done online and the school to disappear, because in this way human relationships will be lost.*

*S260: Traditional education will be replaced, that is, "face-to-face" with online education. Direct contact with classmates and friends is vital because, through it, we create unforgettable experiences and thus shape our character.*

*S252: Most hours of the day were in front of a screen (online lessons); we had no human contact.*  
Despite the concerns and challenges mentioned above, students identified specific instructional practices and technological tools that were helpful to their learning.



**Figure 9.** Students' responses on how challenging it was for them not to be able to see their classmates (**left**), and not to be able to participate in extracurricular activities (**right**) during the emergency remote-teaching period.

#### 4.3. Instructional Practices and Technological Tools Identified by Students as Helpful to Their Learning and Future Use of These Practices and Tools

##### 4.3.1. Instructional Practices and Technological Tools Identified as Useful for Learning and Future Use

Various practices and tools were employed for teaching and learning, and based on students' responses, some of them were more helpful than others.

As illustrated in Figure 10, few teachers made an effort to include new practices and tools in their teaching, such as online homework, instant messaging, quizzes, online discussion forums, and simulations. Students describe as more helpful the most "traditional-like" practices such as synchronous instruction (78.7%) and PowerPoint presentations (69.1%), and tools such as handouts with theory or clarifications (74.5%). However, new practices such as online homework (63%) and instant messaging (62.9%) also seem to be helpful to the majority of students.

Strangely enough, tools and technologies that are particularly suitable for distance learning settings, such as videos, discussion forums, social media, online quizzes, virtual laboratories, and simulations, were rated as helpful during the remote-teaching period only by a minority of the students (33.0–43.0%). Although our survey instrument did not collect any information regarding the frequency of use of the tools listed in Figure 10, a possible explanation we see for students' preference towards more traditional resources such as handouts and PowerPoint presentations is that these were the tools that were used more frequently by their teachers during the at-distance period. Our assumption is that pedagogically sound technological tools such as games, simulations, and virtual laboratories were rarely used by teachers during the emergency remote-teaching period. We based our assumption on the fact that the majority of Cypriot secondary teachers are not well familiar with such tools and/or their pedagogical use, since instruction in secondary schools tends to be very traditional, with teachers making minimal use of innovative technologies.

<i>Percentage of students ...</i>	<i>...stated that his/her teacher used...</i>	<i>...consider that tool/practice as "extremely" or "a lot" helpful</i>
Synchronous instruction	97.80%	78.7%
Handouts with theory or clarifications	95.00%	74.5%
Power Point Presentations	92.50%	69.1%
Online homework	90.70%	63.0%
Instant messaging	88.80%	62.9%
Video	68.60%	43.0%
Online discussion forums	63.00%	43.3%
Social media	57.10%	41.8%
Quizzes	59.90%	39.4%
Virtual Laboratories	54.00%	35.6%
Simulations	54.70%	33.0%

**Figure 10.** Tools and practices used by the teachers and how helpful they were for students.

#### 4.3.2. Instructional Practices and Technological Tools Identified as Helpful for Future Use

From the students' point of view, most of the tools that teachers used during the pandemic were considered as helpful in the normal context of schooling (Figure 11), regardless of whether their teachers used them or not during the pandemic. The vast majority stated that when schools return to normal, they would like their teachers to use Power-Point presentations (88.5%), handouts with theory or clarifications, instant messaging, and videos. A considerable proportion of students also considered as helpful the use of quizzes, social media, online homework and virtual laboratories, online discussion forums, and simulations.

<i>Definitely yes or Probably yes</i>	<i>Total</i>
PowerPoint Presentations	88.5%
Handouts with theory or clarifications	87.3%
Instant messaging	74.2%
Videos	67.4%
Quizzes	55.9%
Social media	51.2%
Online homework	48.4%
Virtual Laboratories	44.4%
Online discussion forums	40.4%
Simulations	40.1%

**Figure 11.** Students' responses on how useful it will be for their teachers to use different technological tools when they go back to normal schooling settings (face-to-face).

In addition to the tools, students also made suggestions regarding the teaching methods, as well as other aspects of learning (e.g., homework) in distance settings:

*S237: For education, I think online teaching was easy to use, but it should have been implemented in previous years to improve. So that teachers and students would be better able to use the applications, have the necessary equipment and a better response concerning the loss of lessons from the beginning.*

*S11: Less homework and fewer assignments. Just because we stayed at home doesn't mean that teachers have the right to increase work.*

*S22: Teachers should not send us handouts repetitively but the PowerPoint of the lesson so that we do not copy handouts all day long.*

Students' commentary about the amount of homework might relate to specific aspects of the sudden transition from face-to-face education to emergency remote learning that students had to manage; for example, learning to navigate in the online environment to view and complete their assignments. This is also interlinked with "copying handouts all day long", as the teaching material had not been adapted to online teaching during the first lockdown.

## 5. Discussion

The aim of this research was to comprehend the impact of the first school closure during the COVID-19 pandemic on secondary education in Cyprus from the perspective of students. Through the administration of an online survey, the study investigated the main issues and challenges that students experienced during their abrupt transition from face-to-face to emergency remote education and their main worries and concerns during this period, as well as their perceptions regarding the effectiveness of the teaching and learning process followed during the distance-education period. The study also elicited students' suggestions, based on their experiences from the lockdown period, on how to improve instruction in case of further lockdown(s) and in the post-COVID-19 era.

There were several limitations to this research. One limitation was that the study findings were based on data collected solely from students, through a survey that investigated learners' subjective views and perceptions. Moreover, since the survey was administered online, it was very likely to have an underrepresentation in the sample of students with no internet access at home. Another drawback was the limited generalizability of the study findings due to the self-selected nature of the survey sample. Additionally, the findings might have been influenced by the time at which the survey instrument was administered; namely, right after the end of the first lockdown and students' return to school in May 2020. A study conducted during the second lockdown (December 2020–March 2021), when teachers and students already were accustomed to distance education, probably would have yielded different results.

Despite the tentative and nongeneralisable nature of its findings, this research has provided some unique insights into the experiences and perceptions of students concerning the emergency remote-teaching period that ensued the first school lockdown in Cyprus. Findings from the study, which are summarised next, concur with and add to the accumulating international body of research on young people and education during the pandemic (e.g., [11–15]), and have important implications for policy and practice.

### 5.1. School Closure and Student Wellbeing

A main challenge of the school closure raised by students in our study is that distance education took away the "socialisation" element of school life. As students pointed out, during the lockdown they missed their school and friends, and craved for the social aspect of their school lives. They reported their feelings of loneliness and boredom due to lack of connection with their classmates and teachers. Studies conducted in other countries during the pandemic have also indicated significant increases in students' emotional/psychological distress and a decline in their wellbeing during school closure (e.g., [12–14,16–22]). This was expected, given the severe changes to children's and adolescents' daily lifestyle caused

by the pandemic. As pointed out by Sam Hassan et al. [23], schools represent life for students and a place of not only learning, but also social interaction. Being confined to their homes, where they often have inadequate personal space, fearing about themselves or their loved ones being infected, and lacking face-to-face contact and interaction with classmates, friends, and teachers was/is a great challenge for young students worldwide. Psychologists and scientists warn that, although easily overlooked, the psychological, behavioural, and physical trauma caused by home confinement had a negative impact on children's quality of life that may extend beyond the lockdown for a long time [23]. It is, thus, crucial for educational systems to prioritise wellbeing supports for students returning to school and to develop student wellbeing contingency plans in the instance of future school closures [12]. Adequate funding should be provided for the provision of appropriate services within and outside school to source appropriate help and support for students in need. Teachers should be provided with professional development on how to promote good mental wellbeing among their students, as well as on how to recognise early signs of anxiety and stress among students so as to ensure that those in need get access to support in a timely manner [12].

### *5.2. Impact of School Closure on Teaching and Learning*

While some students in our study expressed satisfaction with taking their courses online, three-fourths indicated a clear preference for face-to-face instruction, due to the many challenges they faced in the virtual space: difficulties in concentrating during online sessions, difficulties in understanding teachers' instructions and the learning material, disconnection from their teachers and classmates, feelings of isolation, lack of motivation, etc. Students found it challenging to force themselves to concentrate in front of a computer screen throughout the school day, mainly listening to their teacher lecturing, and having very limited opportunities for discussion and teamwork. The feelings of isolation and disconnection from teachers and peers were intensified for students in public schools by the fact that all cameras were centrally disabled by the MS Teams system administrator for safety/privacy reasons. Additionally, students in the public sector lacked motivation to study during school closure, since the Ministry of Education had announced right at the start of the lockdown that only the material covered with physical presence would be tested during the exams. Soon after that, the Ministry announced that, with the exception of the university entrance examinations, all exams would be cancelled for the rest of the school year and all students would be given passing grades. Moreover, senior students were reassured that no material covered during the online period would be included in the university entrance examinations. This obviously had a negative impact on students' level of participation and attitudes towards online education, since they felt that the work and effort themselves and their teachers were putting during the online period were not appropriately recognised by the Ministry of Education, and that the entire online teaching and learning process was somehow undermined. Moreover, students were worried that they did not acquire the necessary skills and competencies typically expected from students of their school grade, and that these gaps in their knowledge would cause them difficulties in subsequent school grades or in their university studies.

Other researchers (e.g., [12,24,25]) have also found that emergency remote teaching does not provide a satisfactory learning experience for learners. They have also reported that the majority of students are inclined towards face-to-face teaching and learning, feeling that online learning has a negative impact on their motivation, productivity level, and learning.

Research indicates that students around the world have indeed paid, and will continue to pay, a heavy price for their learning due to school closures. Studies from several countries suggest that school shutdowns in the second quarter of 2020 have set back learning for almost all students, putting them up to six months behind the academic milestones their cohorts would typically be expected to reach [15,26]. These losses were greater in mathematics than in reading, with low-income and at-risk students suffering

higher setbacks in all subjects [27]. Given the ongoing shutdowns and the cumulative impact of learning loss, the full impact of the pandemic on student academic achievement is likely to play out for years to come [26].

Of course, the long-term impact will depend on the steps that policymakers and educators take to provide support to students, and particularly those belonging to the most vulnerable sectors of society [28]. Both short-term and long-term planning is needed, during and after the disruption caused by COVID-19, to mitigate and address the damage that is being done [11]. When reintroducing face-to-face lessons, various strategies aimed at helping students to make up for incurred learning losses (e.g., high-density tutoring, personalised mastery-based programs, extra time in the classroom, extension of the school year) should be employed by academic institutions [11].

### *5.3. Teacher Readiness for Online Education*

One of the main factors influencing the effectiveness of emergency remote learning are teaching practices. In our study, students identified their teachers' lack of familiarity with digital technologies as a serious issue that negatively affected their transition to remote learning and contributed to their concerns regarding the effectiveness of learning during the online period. They pointed out that their teachers needed better training in order to be able to adopt their instruction to the new reality. Indeed, it took a significant amount of time for the Cyprus Ministry of Education to start offering training on at-distance teaching, and this training was limited to the technicalities of online teaching, without introducing teachers to online pedagogy. Our study findings indicated that, during the first lockdown, secondary students in Cyprus did not have the opportunity to experience the real affordances of e-learning technologies. This was derived from the fact that they considered as more useful for their learning during the lockdown period resources and practices that more closely resembled the traditional, teacher-centered instructional approaches they typically experienced in the conventional classroom (e.g., synchronous instruction, PowerPoint presentations, handouts with theory and clarifications). This comes as no surprise, given that due to the lack of online pedagogy in the current educational system in Cyprus, Cypriot teachers had very limited familiarity with online pedagogy, scarce online educational material, and no technological tools to support it (e.g., breakout rooms and discussion forums to support collaborative learning). Most importantly, teachers had very little exposure to ICT-enhanced instruction through use of innovative technologies such as games, simulations, and virtual laboratories.

The findings from the current study coincide with those of other international studies (e.g., [12,29]), which point to the need for increasing teachers' readiness for online education. It is of utmost importance to provide teachers with high-quality preservice and in-service training opportunities that will equip them with the required knowledge and skills to use e-learning tools in effective ways that promote real-time engagement of learners and help to foster a sense of community that can make students' online learning experience more satisfying and meaningful. Teachers need to develop virtual strategies for promoting teacher-student communication and interaction, peer interaction, and collaborative work [29]. Also, teachers should be trained in strategies for providing timely and ongoing feedback to online learners, and in other effective continuous assessment strategies (e.g., self- and peer-assessment, use of rubrics) since, as indicated by this study's findings, the role of assessment is of critical importance for sustaining student engagement in the online space [12].

By modernising the current teaching and assessment practices and by making the current curricula online friendly, we can enable the use of other innovative technologies such as games, simulations, and virtual laboratories. All these technologies must be incorporated in the current educational system, thus offering the teacher with the right tools and training, as well as the students with alternative options to face-to-face teaching.

Despite the traumatic consequences of COVID-19 on education, growing evidence around the world demonstrates that positive changes are emerging among the pandemic-

affected school communities [30]. In Cyprus, the mere fact that, during the first lockdown, technological tools were for the first time extensively used by secondary teachers is in itself a big advancement for our educational system, since the pedagogical use of technology in secondary classrooms tended to be minimal in the past. Similarly to other countries, the school closure in Cyprus provided a unique opportunity for teachers to enrich the media they were using to represent learning [29]. Teachers' familiarisation with the instructional use of e-learning technologies was an important first step towards the digitisation of education in Cyprus. During the second lockdown in the island in winter 2020, things ran much more smoothly. Lack of familiarity with e-learning was no longer an issue, since many training sessions targeting teachers across educational levels had already been offered by the Cyprus Pedagogical Institute and other providers, and these will continue to be offered in the foreseeable future. The quality and support systems around remote learning also improved during the second lockdown, because the offered professional development programs, which are being attended by large numbers of teachers, focus on pedagogically sound uses of e-learning technologies in both at-distance and blended learning settings. The aim is towards capacity development of digitally competent educators in a post-COVID-19 transformed school system.

#### *5.4. Issues of Access, Accessibility, and Equity*

The study findings revealed differences among study participants concerning their home learning context during school closure (access to devices, broadband, a quiet space to study), but also their level of preparedness for emergency remote teaching. While all students participating in the study had access to the internet, and the majority had sufficient access to devices required for remote learning and a quiet space for learning, this was not the case for everyone. Similar to researchers abroad (e.g., [12,24,25]), we also found that a considerable proportion of the students were working at home in somewhat adverse conditions, having to struggle with the technicalities and accessibilities of virtual education [31]. Lack of access to a quiet study space was also a challenge for a sizeable proportion of the participants. This is an issue of concern since, as other studies have shown, lack of an appropriate space for the conduct of educational activities is associated with lower active engagement and lower wellbeing scores for students [12,32].

Comparing the experiences of students attending private schools in Cyprus to those of students in the public sector, we found that the former group had more favourable conditions than the latter, which allowed them to more easily adopt to the particularities of the virtual space. As already pointed out, private schools were more prepared to cope with the unprecedented challenges of the pandemic, since in several of these schools, teachers had received prior training on at-distance education and on the use of online platforms like Microsoft Teams, and thus efficiently switched to online instruction within a couple of days of the lockdown. All, or almost all, of the students in these schools—typically originating from middle or upper socioeconomic backgrounds—had high-speed internet access, proper ICT tools, and a quiet study space. Based on students' responses to the survey, prior ICT skills and level of readiness to adopt online learning methods was also higher among students in the private sector. A considerably higher percentage of students from private schools compared to students from public schools rated their level of familiarity with technology to be at the advanced level, and also indicated loving or liking new technologies and experimenting with them before most people. As shown in this study and supported by findings of other international studies (e.g., [24,33]), students' reported level of familiarity with technology played a significant role in the transition to online learning, especially when it came to the ease of use of the platform employed for distance learning.

## **6. Conclusions**

Our study has reaffirmed what has been pointed out by international organisations and educational researchers since the start of COVID-19; i.e., that the pandemic has exacerbated

existing economic and educational inequalities for young people from disadvantaged backgrounds in school systems around the world [1,3,12,20,34–36], with school closures having a more adverse impact on already-vulnerable groups of learners. Educational systems should consider this not as a barrier, but as an opportunity to reimagine and build a more equitable and resilient education system that delivers a better education to all students [28]. They should adopt policies and pedagogical approaches and strategies (e.g., personalised and adaptive learning, differentiated learning, universal design for learning (UDL), etc.), that will help to address the current inequalities by promoting access and accessible and inclusive education for all learners, both during the pandemic and in a post-pandemic world.

The useful insights gained from this study illustrate how important it is for educators and educational policymakers to give voice to students, to closely listen to what learners felt worked and what did not during the period of remote learning, and to develop plans and policies that incorporate their feedback. However, the presented results are only suggestive and warrant further study, using more rigorous data-collection and analysis procedures, and a longitudinal approach to research. Moreover, it is important to enrich the insights gained from this study through the conduct of studies examining the perspectives of teachers, parents, and other important stakeholders in the education sector, as well as studies evaluating the long-term impact of the pandemic on students' academic performance and wellbeing.

**Supplementary Materials:** The English version of the questionnaire used in the present research is available online at <https://www.mdpi.com/article/10.3390/educsci11060268/s1>.

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