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Student Perceptions of Online Education during COVID-19 Lockdowns: Direct and Indirect Effects on Learning

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Abstract: The COVID-19 pandemic forced an abrupt transition to fully online learning in universities that typically provided campus-based teaching. We examined the learning experience of undergraduate and postgraduate students during this transition at a UK university. Qualitative surveys and interview responses revealed both direct effects of the transition to online learning and indirect effects caused by the COVID-19 induced lockdown. Direct effects related to interaction and communication altered study-related opportunities and digital tool use. In all cases, students expressed a range of views, for example, with some reporting greater opportunities and others fewer. However, there was a clear consensus that the online learning had brought greater flexibility for students. For indirect effects, students noted altered time available for study, challenges and benefits to studying at home, greater monotony and required autonomy as well as altered priorities, concerns about employment, finances and career prospects. These reflections on students' experiences of online learning can inform academics and education providers to design appropriate strategies in order to better facilitate and support students' education via fully online or blended learning approaches.

Keywords: pandemic; online education; blended learning; university; higher education



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1. Introduction

The COVID-19 pandemic resulted in unprecedented changes to all areas of life, including Higher Education (HE). University campuses were forced to close their doors to students and staff during government lockdowns, which resulted in a sudden transition to online learning. Despite the abrupt nature of this change in mode of learning, it has been argued that this was, in fact, only a rapid acceleration of a slower pace of change towards a greater online educational provision in recent years [1]. Certainly, the use of online learning has gradually grown in HE. Prior to the pandemic most universities were moving towards or already adopting a blended learning approach—that is incorporating online pedagogy to enhance face-to-face experience—using virtual learning environments (VLEs) and tools such as Lecture Capture to support face-to-face teaching [2–5]. However, the pace of change had previously been slow and risk averse as barriers were continuously identified and technology advanced [6].

Although COVID-19 and the associated lockdowns were unprecedented, many universities are continuing to offer some of their newer online learning approaches post-pandemic, integrating them into previous blended learning methods [7]. Furthermore, research suggests that there has been a shift in attitude amongst academic staff conducive to educational reform in this area [8]. This attitudinal change comes on top of mounting evidence that blended learning is beneficial. For example, blended learning can improve student retention, engagement [9–11] and attainment [12,13]. It may also support sector-wide societal

aims such as widening participation [14]. Although clear benefits of blended learning have been identified, challenges associated with shifting any learning online include the need for students to be self-motivated, able to manage their time and work independently [15–19]. For a blended approach to be successful, students need access to technology, the skills to use this appropriately and confidence to do so [16,20]. Interactivity is also recognised as potentially problematic. Students commonly express a preference for face-to-face over online discussions [21]. It can be harder to establish a sense of connection online [22,23] and online text-based discussions are particularly unpopular, with students finding these to be of relatively limited use [24–27].

Much of the research to date investigating the student experience of online and blended learning has been conducted in a context where academics have opted to teach in this way for students who have chosen this mode of study (e.g., [28]). The pandemic, therefore, offered a novel opportunity to examine the experiences of students who had not opted to study online and who learnt from rapidly developed teaching materials [29]. Within this context several studies have already been conducted both in specific disciplines and across subjects. However, the majority of the studies investigating students' perspectives about online education during the pandemic have focused on quantitative methods [30–38]. Whilst these approaches provide a large dataset and can examine a range of factors and the relationship between them, this complex experience warrants evaluation with both quantitative and qualitative methods.

At the time of writing, the few studies which have qualitatively examined student experiences of the pandemic-imposed switch to online learning have focused on those enrolled on specific programmes such as medical degrees [39–41]. As may be expected for a global pandemic, research assessing the impact on education has been conducted in several countries including South Africa, South Korea, Jordan and the USA [29,30,37,40,41]. However, given international variation in design of education and students' expectations, comprehensive evaluation within the UK can offer a helpful addition to this body of research. Therefore, the present study focuses on one large London university, with students recruited across faculties, completing surveys and interviews to provide qualitative data about their experience of online learning during the lockdown associated with COVID-19.

2. Materials and Methods

2.1. Design and Procedure

This study was part of a wider research project investigating the effects of COVID-19 on students. Data collection was carried out using two anonymous online surveys completed in April–May 2020 and again in July–August 2020. These periods represented the period immediate after the transition to online learning, following the March lockdown, and once restrictions had been relaxed in July 2020. The data used in the current study are derived from the qualitative survey questions; nine open questions were included in the first survey, with seven of these included in the second survey (see Table S1 in Supplementary Materials). The surveys questions were developed specifically for this study, given that no previous research had examined the effects of a pandemic and university closure. The questions were developed by the authors based on (a) their extensive experience of teaching in Higher Education including in all online institutions, (b) a desire to ensure that students were able to express both positive and negative components (e.g., least vs. most successful and positive vs. challenging), and (c) recognition that individual differences in key experiences, such as employment and caring responsibility, could influence their overall experience.

In addition to the two online surveys, participants were able to opt to participate in an online semi-structured interview for this study. Online, semi-structured interviews were conducted in July and August 2020 by [Author 1]. The interview schedule or topic guide was developed at the start of the project to generate data relating to the student experience of the rapid transition to online learning. Reflecting the speed of the transition, we sought to understand whether students had a suitable environment for studying

and their experience of online learning. Questions were developed by two teaching academics [Author 3 and Author 7], who had experienced the process of rapidly shifting to online teaching and have extensive prior experience in online teaching and educational research [Author 3]. Following preliminary analysis of the survey data, we added a question about the acquisition of digital skills to the interview schedule, in order to better understand the skills students felt they were developing through the transition online (see Table S2 in Supplementary Materials). The project was ethically approved in advance by the Institutional Ethics Board (MRA-19/20-18209).

2.2. Participants

In order to participate in this study, participants had to be studying at the host university for a full-time degree that would typically be taught on campus at either an undergraduate level (e.g., BSc or BA) or at postgraduate level (e.g., MSc). Postgraduate research students were excluded from this study, because they do not typically receive in-person teaching and learning, and therefore did not encounter the rapid transition to online learning, which was the focus of this study.

The study was advertised on the institutional research recruitment website and email circulars, the university's VLE, email advertisements circulated by programme administrators and targeted social media advertisements. Interested participants could follow a link in the advert to the information sheet, consent form and first anonymous online survey. In total, 417 students completed the first survey and 235 of these completed the follow-up survey. Table 1 provides an overview of the participant characteristics, with reference to the whole university population.

Table 1. Participant characteristics, compared with the university student population.

Demographic Data	University Population	Survey 1 (n = 417)	Survey 2 (n = 235)	Interviews (n = 14)
Female:male	1.76	4.63	4.48	1.8
White:BAME	1.25 ¹	1.80	1.77	1.33
Home:EU	4.85	2.03	2.34	4.5
Home:international	2.52	2.57	2.73	3
Aged under 20	38%	34%	34%	7%
Aged 21–24	35%	49%	50%	64%
Aged over 25	33%	18%	16%	29%
Undergraduate:postgraduate	1.77	2.41	2.36	1

¹ Ethnicity data about the university's population were only available for UK domiciled students. However, in the current study ethnicity data were collected from everyone, regardless of domicile.

In this case, 38 students of the 199 who agreed to be contacted were approached to participate in an interview based on their demographic and student characteristics (age, gender, ethnicity, academic area, fee status, and level of study). Here, 14 students were interviewed. Table 2 provides detail of the interviewed participants.

Table 2. The demographic details for interview participants.

Level of Study	Faculty	Fee Status	Gender	Age	Ethnicity
Undergraduate	Arts & Humanities	Home	Female	21–25	White British
		Home	Male	21–25	White British
		Home	Male	21–25	Indian
	Natural Sciences & Maths	Home	Female	21–25	Indian
		Home	Female	21–25	Mixed ethnicity
		Home	Male	18–20	White British
	Social Sciences & Economics	EU	Female	21–25	White non-British
Postgraduate taught	Arts & Humanities	Home	Female	Over 40	Caribbean
		International	Female	21–25	White non-British
	Medical & Applied Health Sciences	Home	Male	Over 40	White British
		International	Female	26–30	Other ethnic group
	Natural Sciences & Maths	Home	Female	21–25	Indian
	Social Sciences & Economics	EU	Female	21–25	White non-British
		International	Male	Over 40	White British

2.3. Data Analysis

Analysis of survey and interview data was completed by three researchers [L.M.D., A.B. and N.C.B.]. In both cases, data were transferred into NVivo, a software used to help organize qualitative data to add effective analysis and sharing of codes between researchers during the analysis phase. Survey responses were analysed prior to interviews. The analysis took a realist approach and was completed at a semantic level, with themes identified from the explicit meanings of the participants' responses using the six stage process outlined by Braun and Clarke [42]. This analysis process involved data familiarisation, coding, thematic extraction, and review and naming of themes, before finally completing a narrative analysis [43]. An inductive, bottom-up approach was adopted to identify themes and patterns within the dataset. Coding was discussed between the team at multiple points to clarify themes and avoid individual biases [44]. Quotes identified by group (e.g., Staff or Student) are provided as evidence [45] of findings. Survey responses were reviewed and coded independently by two researchers [L.M.D. and A.B.] who then compared codes to check agreement level. This coding was then reviewed by a third researcher [N.C.B.].

Interviews were transcribed automatically using Microsoft Stream, checked, and corrected [L.M.D. and A.B.]. One interview was coded independently by all three researchers to ensure agreement as is typical practice in qualitative analysis of this kind. The remaining 13 interviews were double coded [L.M.D. and A.B.]. The coding utilized the same thematic analysis approach as used for the surveys. Finally, codes from the survey and interviews were reviewed in parallel by all three researchers agreed that the theme across time points aligned and therefore theses could be considered collectively. Consequently, the themes identified from the qualitative analysis were derived from the qualitative data provided by 417 students.

3. Results

In the first survey, 81–95% of students answered the nine open questions and in the second survey, 27–51% answered the seven open questions. As indicated above, similar ideas were captured within the survey responses and interviews, with interviews providing further depth and clarification of ideas already present in the survey data. Based on all data, our analysis identified two themes (Figure 1). Firstly, students talked about the direct effects of the transition to online learning. Within this theme, there were five subthemes. Secondly, students commented on the effects of the lockdown in relation to seven different

subthemes which impacted on their concentration and motivation to study and therefore had indirect effects on their learning.

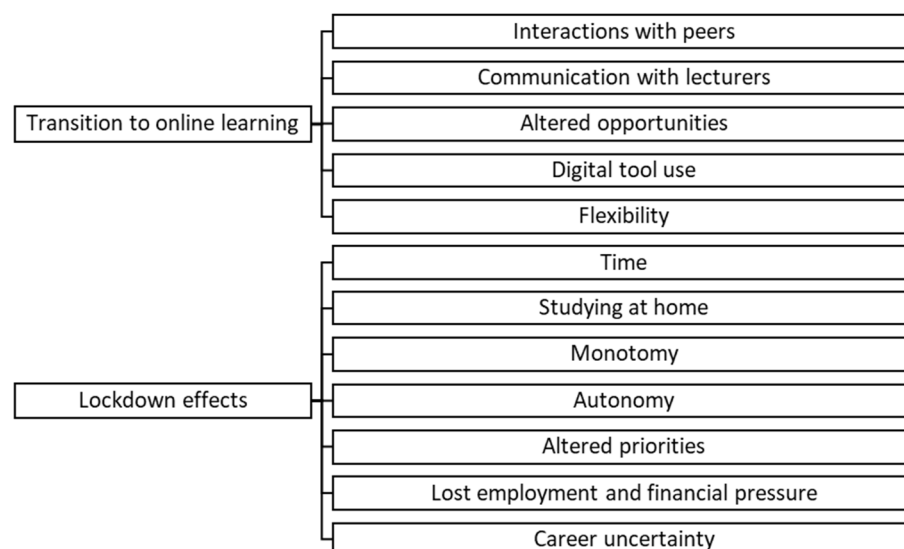


Figure 1. Themes and subthemes.

3.1. Transition to Online Learning

Reflecting on the transition to studying online, we identified five inter-related subthemes: interaction with peers, communication with lecturers, altered choices and opportunities, digital tool use, and flexibility. For the first four subthemes, student responses indicate a diversity of views. However, for the final subtheme, there was a greater consensus that online learning had improved this area.

3.1.1. Interaction with Peers

Many students considered interaction with peers a key aspect of their learning experience which normally contributed to their enjoyment and productivity.

“Studying for me would usually involve leaving the house and using library facilities with my friends and housemates... When it was like this, I found studying enjoyable and felt that I got a lot done.” [Survey, Female, Undergraduate, Medical and Applied Health Sciences, Home]

With the transition to online learning, however, students felt that good interaction was harder to achieve, and group work outside the organised teaching sessions was especially challenging:

“Not being able to [see] people’s reactions and their body language. That was quite difficult because I need the full expressions and the full body movements and language to be able to understand what someone means.” [Interview, Female, Postgraduate Taught, Natural Sciences and Maths, Home]

Students were more likely to be positive about small group interaction, identifying that participation in a large online group was intimidating, slow and inefficient. It was noted that some students were reluctant to turn their videos on and there was a sense that all were still working out what an agreed etiquette should be for online engagement. Poor internet connectivity was a barrier for some students. Other students noted that their teaching time, and therefore time for in-class interaction, was reduced as staff were trying to solve technological errors and learn how to use the software:

“The staff were unfamiliar with the format and there were a few technological errors. This meant that less time was spent teaching and more time sorting cams, mics, sharing slides etc.” [Interview, Male, Undergraduate, Social Sciences and Economics, Home]

3.1.2. Communication with Lecturers

Some students found the shift online made it easier to talk to their lecturers in class:

"I think asking questions in a virtual environment is a lot easier than asking questions in a crowded lecture room, just in terms of understanding, and volume and things like that." [Interview, Female, Undergraduate, Natural Sciences and Maths, Home]

However, outside of classes, students found it hard to receive answers for questions. For some, this was related to the pandemic and students understood that the national lockdown was impacting academics' ability to engage. For many the challenge related to a change in methods of communication; they felt the online environment was quite formal. Students described needing to make a booking to have a call (or online chat) with a lecturer as opposed to approaching them at the end of a lecture or visiting their office. This deterred some from trying to talk to academics. Students described email communication and forum posts as slow. Furthermore, some students reported difficulty in keeping up with the deluge of emails and forum notifications, which they found overwhelming:

"Normally you know when your lecturer's office hours are, so you could always just pop in without warning whenever you like, but emailing people online, sometimes you'd have to wait a couple days for a response [. . .] it is definitely less convenient than just being able to speak to someone face to face" [Interview, Female, Undergraduate, Arts and Humanities, Home]

3.1.3. Altered Opportunities

Some students appreciated the new opportunities of attending international conferences online and the increased digitisation of archive resources:

"Many of the events I would not normally have the ability to attend due to location are now online so I can call into a zoom hosted at Stanford then being limited to the London area." [Survey, Female, Taught Postgraduate, Arts and Humanities, International]

However, many missed being able to access campus resources including libraries and laboratories. Where students were studying book-dependent subjects, lack of access to books had a severe impact on their ability to study. In such instances, students described the need to change the focus of their dissertations:

"The resources I needed just did not exist online. They were only in libraries . . . it was kind of a last-minute scramble to like, 'OK, so now I still need to reach a certain word count. You know, how do I do that with the material that I do have?' And I think it ended up affecting my mark a bit." [Interview, Female, Postgraduate Taught, Arts and Humanities, International]

3.1.4. Digital Tool Use

Moving learning online required students to adapt to new platforms and learn new skills. Perhaps because of this, some students highlighted their preference for teaching methods that resembled those they had previously experienced, including recorded lectures uploaded to VLEs and use of online forums:

"[The online forum was] more successful because it doesn't really deviate from past experiences. The less change there is, the easier it is for students to adapt." [Female, Undergraduate, Medical and Applied Health Sciences, International]

However, positive aspects of a greater reliance on digital methods were also noted, even where it had required a change in skills or habits:

"It saves me carrying a folder around, it's all on my laptop—now that I'm comfortable with using it [. . .] there's no point in me kind of having a shelf full of notes, some books that I have that weigh a ton. Now that I forced myself to get used to it, I'm definitely going to keep using it." [Interview, Male, Undergraduate, Arts and Humanities, Home]

Finally, some students felt that the shift online had little impact on them in terms of skill set, because they already relied heavily on digital tools. Despite this, many felt that they changed how they work, spending more time in front of screens:

"I think spending a lot of time just sat down in front of the screen is a bit of a disadvantage because, then you can't switch off, or you know, even when you're relaxing, you're still watching TV or looking at some sort of screen." [Interview, Female, Undergraduate, Natural Sciences and Maths, Home]

3.1.5. Flexibility

Students overwhelmingly described the shift online in terms of increasing flexibility, convenience, and accessibility:

"I've found transcripts of the lecture and PowerPoints with corresponding audio very helpful. [. . .] Generally having the freedom to complete tasks in our own time, rather than having to be at a lecture at a set time, has been very helpful and allowed me to work around difficulties at home." [Female, Undergraduate, Arts and Humanities, Home]

Some felt they studied better with online lectures as pre-recorded material provided the opportunity to pause and engage in deep notetaking. Furthermore, accessing material from home allowed students to set up their own study space and have books and resources to hand. Students also described the value of being able to flexibly choose when to engage in learning activities. In addition, removing the need to commute into lectures freed up substantial time for some students:

"I don't see the appeal of me going to lectures. That was often, not a waste of time, but it's an hour to get there, an hour to come back, you know, I would always come early." [Interview, Female, Postgraduate Taught, Social Sciences and Economics, EU]

3.2. Lockdown Effects

Aside from the direct comments about learning online outlined above, our data indicate that the lockdown indirectly impacted student learning by presenting key challenges to concentration and motivation. Within this context, we identified a range of contributing factors or subthemes, each elaborated on below.

3.2.1. Time

Interviewees commented on the "time lost" at the start of the lockdown due to its abrupt nature, necessitating changes in plans for living arrangements when national and international government guidance about freedom of movement was changing daily, and there was institutional uncertainty about how teaching should best proceed. This was time they were unable to catch up:

"Everything was so confusing right then, I feel like I lost a lot of time just in stress and planning, and not being certain about the future." [Interview, Female, Undergraduate, Natural Sciences and Maths, Home]

Where students felt that they had more time, many invested this in learning, going into more depth with their studies:

"[. . .] for preparation of some online lectures, there is often a reading list of things you should read. Before the lockdown maybe I read 60%. During the lockdown, maybe I read 90%." [Male, Taught Postgraduate, Medical and Applied Health Sciences, Home]

3.2.2. Studying at Home

Some students travelled home to be with family while others remained in university accommodation; all were constrained by the government's "stay at home" mandate. For a few students being at home had limited impact as they were used to studying there. For the majority, however, being "stuck at home" was very challenging due to the presence of others:

"I have to look after my 10-year-old sister that is at home all day. My mother has a fragile mental state and staying locked up at home is not helping at all [. . .]. My dad is trying to continue running his business which has just lots of financial assets. So, it's a slight turmoil at home at the moment." [Survey, Female, Undergraduate, Natural Sciences and Maths, Home]

Related to this, students talked about needing their own space and many described their attempts to create space in a busy and crowded house:

"I'm sharing a room with my younger sister. Her school also stopped, so we had to come up with some rules with studying times [. . .]. I did not have a very comfortable place to study." [Interview, Female, Undergraduate, Social Sciences and Economics, EU]

In studying at home, many students had a poor ergonomic set up, with some reporting that they had to sit on their bed with a laptop. Studying at home blurred the boundaries between space to study and space to relax, consequently making it harder to focus while studying and switch off when relaxing:

"It is more challenging to study in my room because my room was my place to rest, sleep, watch Netflix and relax, but now it's everything in one." [Interview, Female, Postgraduate Taught, Natural Sciences and Maths, International]

Students sought the opportunity to vary their study space. They recognised that prior to lockdown, there was a clear separation between workspace and home-space, and they used a change of location to refresh their minds, which was clearly not the case when studying from home:

"I sent an email to the library at one point because [. . .] some of us have been living on campus and don't have like a common room or just anything. [. . .] I was like "I would literally wear hazmat suit if you could just let me sit at a table somewhere, like it doesn't have to be inside. Just give me a table." [Interview, Female, Postgraduate Taught, Arts and Humanities, International]

3.2.3. Monotony

During the lockdown, life became monotonous, and with nothing to do, students described a paradoxical relationship between having more time and being less productive:

"I think it's way easier to study all day when you have things to look forward to, [. . .], when you have a life outside of studying." [Interview, Female, Postgraduate Taught, Social Sciences and Economics, EU]

Related to this, students could not engage in activities that they may usually have used to manage stress or break the monotony, such as going to the gym:

"[. . .] if I had access to like gym equipment or something like that whilst I was writing my thesis [. . .], I feel like I could have maybe done even a bit better, or I would have stayed a little bit more sane and mentally stable. The gym was my main outlet." [Interview, Female, Taught Postgraduate, Natural Sciences and Maths, Home]

The impact was far reaching, with students describing boredom creeping into all aspects of life:

"I would say, has just been so hard to make myself function every day and get out of bed. [. . .] at first I was like cooking all kinds of stuff and then the more I'm just like 'I've got to feed myself again. Like here we go'." [Interview, Female, Postgraduate Taught, Arts and Humanities, International]

3.2.4. Autonomy

Studying at home requires self-motivation, organisation, and time-management. Some students have found the large amounts of unstructured time challenging. While for some, this has resulted in less work, others have found it harder to take breaks:

"In terms of like time management, everything is just endless [. . .] I didn't really realize it before, but it's like I'd go to the library for two hours and then get lunch and things would kind of be broken up [. . .] being at home . . . it just kind of feels endless, like I should be working on it every minute." [Interview, Female, Postgraduate Taught, Arts and Humanities, International]

However, a substantive number of respondents appreciated the increased autonomy and flexibility to arrange their own time:

"I am able to manage my time appropriately, allowing me enough time for leisure and to help my family with grocery shopping." [Survey, Female, Taught Postgraduate, Social Sciences and Economics, EU]

3.2.5. Altered Priorities

Students reported feeling overwhelmed by the pandemic and the abrupt changes to their daily lives. They were worried about their own health and that of their loved ones. COVID-19 introduced new concerns that made academic work feel irrelevant:

"I'm writing about cyberattacks and whatnot, it seems futile, a lot of it seems futile when there are so many deaths [. . .] I think it feels really just like studying doesn't matter as much." [Interview, Female, Postgraduate Taught, Social Sciences and Economics, EU]

Students described new priorities that took precedence over their academic work. For some these priorities were enforced upon them. For example, were caring for family members, helping with home-schooling, completing household chores to support vulnerable members of the family and taking up paid employment to support the family finances:

"My dad lost his job due to COVID-19. He was the sole income earner of our household. Now, I find myself sometimes desperately looking for jobs online during the time that I would have otherwise programmed for studying." [Survey, Female, Undergraduate, Medical and Applied Health Sciences, EU]

In the context of the new uncertainty, some felt that taking time with their family to give and receive moral support felt more important than university work:

"Since the outbreak my focus has been more family-orientated, spending quality time with them at home, helping out wherever possible and appreciating life. I still carry out all my assignments, lectures and readings, but they are no longer the sole focus of my time." [Survey, Female, Undergraduate, Medical and Applied Health Sciences, Home]

3.2.6. Lost Employment and Financial Pressures

Many students would usually undertake temporary or part-time jobs to pay their rent and provide financial independence. Due to COVID-19, students described being the feeling of being made redundant or facing limited employment opportunities:

"Because I had no shifts, I couldn't pay my rent and so I moved home. The flat I was renting is currently empty, but I still have to pay rent as I am tied into the contract and the management company won't let me leave. I am having to borrow money to pay the rent." [Survey, Male, Undergraduate, Medical and Applied Health Sciences, Home]

3.2.7. Career Uncertainty

Students reported anxieties about their future options, expecting the employment market to be more competitive when they graduate with fewer options available. Some students worried about the relevance of their studies for a post-pandemic job market and were reconsidering career options:

"I am finished with my MA after I submit my dissertation in late August and many companies have a hiring freeze right now. I am also up against a lot more people looking for work due to the skyrocketing unemployment rate." [Survey, Female, Taught Postgraduate, Arts and Humanities, International]

4. Discussion

Universities worldwide closed their campuses in response to COVID-19 and rapidly transitioned to online learning to maintain their educational provision. Given that universities were already increasing their use of online learning prior to COVID-19 and that blended learning is predicted to be the most pragmatic and desirable approach in future [7], it is important that the student experience of this is fully understood. As such, we used qualitative methods to understand how students experienced this online learning. Through survey and interview data collection, two key themes were generated. Firstly, there were experiences directly related to the transition to online learning, such as altered peer and lecturer interaction and use of digital tools. Secondly, students reported several factors which indirectly impacted their learning through altering motivation and concentration. These included studying at home, autonomy, and financial pressures.

Within the first theme, which centred around the direct effects of transitioning to online learning, data indicate that students encountered differences in how they communicated with both their peers and staff. They reported difficulties interacting with their peers aligning with previous studies of online learning conducted both prior to the pandemic [46] and in pandemic-based studies elsewhere [29]. Whilst this suggests that the difficulties are not pandemic-specific, the student responses also indicated that in some cases they were caused by reduced time due to technical difficulties, which would presumably reduce as all persons involved became more competent with the tools. In terms of communication with lecturers, students found that they lacked the opportunities for informal conversations at the end of lectures or during office hours, with online alternatives slow and inefficient. Despite this, in class opportunities were sometimes seen as enhanced in relation to in-person teaching. The previous research indicates that communication is central to student satisfaction with staff sending personal messages to students about progress and running Q&A sessions for students being predictive of overall satisfaction [29]. Furthermore, effective and empathic interaction with academics during the pandemic also contributes to a sense of belonging for students, which is critical when studying remotely [33]. Collectively, these findings indicate that the difficulties students face in communicating with staff when education is online could have significant consequences and, therefore, this is an area to optimise.

In addition, within the theme of transitioning to online learning, students reported that they had both enhanced and reduced opportunities relating to their studies. Enhanced opportunities came in the form of being able to join conferences or events which may otherwise have been in-person and inaccessible. This effect has been reported elsewhere and has specifically been shown to give an advantage to women and those from lower income groups, making conferences more accessible [47,48]. Moreover, it aligns with wider societal goals of reducing climate change by moving away from traditional research conferences which are associated with high carbon dioxide emissions [49]. The reduced opportunities reported arose due to lack of access to hard copy resources. The latter is not a characteristic of typical online learning, as students can learn online or using blended approaches, and can still access libraries in typical circumstances. Therefore, this could be specific to the pandemic. Alongside altered opportunities, students noted alterations in digital tool use. The responses here indicated that whilst students preferred approaches that they were with from pre-pandemic teaching, such as forums, they also saw advantages to new digital approaches once they had upskilled. The preference for familiar tools aligns with previous work. For example, research suggests that student digital skills are often overestimated with many only using a limited range of established technologies [50]. This may create challenges during a rapid transition to online learning, where universities had to employ bespoke and varied approaches. It follows that more use of a tool or approach during the lockdowns will increase confidence and competence in its use and therefore comfort using it.

For all the subthemes discussed so far there was a clear diversity of responses with students identifying challenges and benefits to online education. However, for the sub-

theme of flexibility, there was a unanimous agreement that online learning offered greater flexibility. The enhanced flexibility of online learning has long been recognised [51,52]. Being able to view educational content online at a time chosen by the student can have benefits in terms of time and financial costs [2]. The confirmation in the present study demonstrates that even in an emergency and with students and staff who had not intended to delivery teaching online, there are still benefits to doing so. Of particular note was the reference to lectures, which students consider a core part of the university experience and educational offering [2]. Previous research on lecture capture shows students are generally very positive about its use, despite some concerns about its impact on attainment [53]. In the current study, it is then perhaps unsurprising that videoed lectures remained popular with students, with them citing benefits in terms of convenience and flexibility as well improved studying experience. Other research has similarly identified that students regard recorded lectures as a valuable resource to understand the educational content [38,39]. In summary, discussions on the transition to online learning revealed subthemes identifying key areas in which online learning could be challenging or beneficial. In most cases, the findings aligned with pre-pandemic research, indicating that the direct experience of online learning during COVID-19 for students who did not choose to study in this manner, are not dissimilar to previous research investigating online education.

However, a second theme also emerged which in many ways was more pandemic specific—the effects of the lockdown on studying. Students consistently reported challenges to their concentration and motivation which impacted on their learning. Such effects have been reported elsewhere [41], but in this study specific reasons were explored. Students identified that they had both less and more time; the reasons for lost time were typically COVID-specific, for example, dealing with complex housing changes due to restrictions. The reasons for having more time to dedicate to their study were less clear. For example, it was not clear whether they had more time due to removal of other activities because of restrictions or due to reduced need to travel to campus, for example, as learning was online. In any event, the increased time allowed some students to complete more work than they typically would. Similar to changes in time, studying at home presented both challenges and benefits to students. Students talked of difficulties caused by sharing spaces with family members or not having an adequate study set-up. They also noted difficulties creating boundaries between time to study and time to relax when the two activities were in the same physical space. Previous work has noted the benefits of segmentation of activities such as this [54]. We speculate that these challenges could continue beyond the pandemic. Whilst younger siblings or children returned to school and others returned to the workplace, students sharing bedrooms with siblings, not having an adequate study environment and having to demarcate limited spaces for specific activities is not COVID-specific and therefore this is a longer-term consideration for online learning. In contrast to the difficulties identified, when considering flexibility, students noted that they could optimise their study space in a way they cannot for in-person teaching.

Related to studying at home was the monotony of life that the lockdown brought. Students noted that they had fewer other activities available to them and that although this created more time, it also left them feeling less motivated and being less productive. Students noted that online learning required high levels of autonomy. This is in line with previous studies [55,56]. Some students did not feel they had the skills, such as time management, to be autonomous. Previous research has demonstrated that time management is critical to success in online learning [19] suggesting this need was not COVID-specific. In contrast, other students felt that they had developed key skills as part of having flexibility. Given that autonomy has previously been associated with online learning, it seems this finding is unlikely to be COVID-specific. Although some elements of the lockdown effects may continue beyond the pandemic, or were present to some degree beforehand, and thus are not COVID-specific, others are likely to be. For example, students cited altered priorities, such as spending time with family, employment and financial changes and uncertainty around career prospects in a post-pandemic context.

The students in the current study identified several practical factors that impacted their motivation and concentration which we pulled together under our lockdown effects theme. However, it is important to recognise that these practical factors could have compounded motivational effects caused by the mode of learning itself. The research shows that lack of motivation may arise when there is less engaging learning with low levels of interactivity [29]. The comments made about the transition to online learning in the present study indicated interactivity was an issue for many. As such, this may have exacerbated the motivational difficulties. The research also indicates that changes to assessment made as part of the response to COVID-19, altered the effort-reward relationship during the pandemic and may have left students feeling demotivated [36], although assessment was not raised as an issue in the current study. However, previous work drew largely on quantitative data and was carried out in the USA. Therefore, it is possible that differences in the emphasis on assessment between the two countries may underpin this.

It is important to acknowledge that although two common themes emerged, student experiences were diverse, as would be expected from a diverse population with different needs and priorities. For many subthemes, students reported opposing responses, for example, more and less time or more and less autonomy. In addition, in the present study we noted that those with caring responsibilities and limited space to study at home found online learning more challenging. This aligns with previous research conducted in the USA where those with childcare were identified as a minority group who may find the transition more challenging and where having a suited space was identified as a major challenge for 20% of students [29]. The same previous study also found group differences according to ethnicity and household income, which were not found in the present study. However, the work by Means and Neisler (2021) included quantitative measures of ethnicity and financial details which we did not collect. The results of the present study do indicate that finances and employment were a challenge for some students, with reports of lost job opportunities and difficulties paying rent which resulted in a return to the family home. This suggests that those with less financial support may have struggled more, as would be expected based on the previous work in the USA, which collected data from a similar cohort during the pandemic.

The present study provides rich qualitative data examining the student experience of online learning during the first lockdown. We have established that many of the direct effects of transitioning to online learning during COVID-19 are similar to those reported for online learning in different contexts. This is arguably reassuring because it indicates that, despite the rushed and unpredicted nature of the transition, the experience was not fraught with difficulties atypical of online learning. In addition, we have identified several factors related to the lockdown which impacted on learning experiences. Whilst some are likely to be COVID-19 and lockdown specific, we suggest others are generalisable to other contexts. Despite the current study providing an in depth understanding of the student experience, it is important to acknowledge that, due to the qualitative nature of the work, we did not test specific hypotheses and cannot be sure of generalisable findings. Therefore, in order to follow up this work, further studies are needed that consider quantitative methods as well.

Despite the limitations of the current study, as universities continue down the pathway of increasing online educational provision, the findings of the current study, combined with existing research, support several recommendations for practice for online learning, including when it is part of a wider blended provision. Firstly, interaction with peers and communication with lecturers must be prioritised. There are likely to be many ways this can be achieved. The current study and work with academics [8] indicate that smaller group sizes and use of familiar approaches may help foster interactivity. Additionally, academics need to be supported with training to enable them to have confidence using new technology to facilitate student interaction online [57]. Informal conversations between students and lecturers must be replicated online. Where there are barriers to receiving quick answers, students seem likely to opt for not asking questions. Online office hours

may be one solution, to recreate the accessibility and opportunity for quick questions to be answered [58,59].

Secondly, the opportunities available through online learning, such as attending conferences or seminars from a different physical location, that would otherwise be inaccessible, must be maintained. This approach not only widens access, but also reduces carbon footprints [47–49]. Thirdly, universities must ensure that students have access to physical copies of books and other reading materials if desired. Our data indicate that digital fatigue is present, arising because students are spending many hours in front of computer screens, leading to stress and a loss of interest in learning [60,61].

Fourthly, students must be provided with adequate skills training to learn online. This should include digital skills training but also incorporate other key skills such as organisation and time management. A university-wide approach to training is likely to be the most cost-effective option [62]. Finally, in order to ensure that the benefits of flexibility are truly realised it is important to support students in studying outside of the classroom. In order to achieve this universities should consider both time and space. For example, equipping students with time management skills could be supplemented by scheduling slots to view online material which has previously been found to be effective in supporting learning [63]. Furthermore, if most students follow this scheduling, interactivity may also increase as they will be more likely to be at the same point in their studies, offering further benefits. In terms of space, universities need to consider repurposing campus space to enable students to study on campus, to ensure that students have variation in space to study [64]. Students need suitable spaces to study and separation between the space they use to study and that used to relax. While students appreciate the flexibility provided by online education, this does not always mean that they are seeking a distance from the university campus [65].

5. Conclusions

In summary, the current study explored students' experiences of the abrupt transition to online teaching forced by the COVID-19 pandemic. A strength of this work is that data were collected at key points throughout the pandemic, therefore allowing us to understand the benefits and challenges of online learning from the students' perspective. The findings expand the existing literature on online learning with themes extracted from a large group of students in the form of short-answer questions and from a more focused group using in-depth interviews. Furthermore, we identified the effects of the transition to online learning specifically and effects that arose due to, but are unlikely to be unique to, the lockdowns. By combining these insights, we have made recommendations for universities which encompass the wider student experience.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/educsci12110813/s1>, Table S1. Open-ended questions used in the surveys; Table S2. Interview schedule.

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