TWS

The Future of Online Education:

Learning from the COVID19 Pandemic

Editors and Lead Writers: Lucy Cooper & Dingwen (David) Quan

Writers: Phoebe Campbell, Eugenie Kwan, Tara Cavan, Natasha Huang & Rosanna Mutsaars

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Abstract

The COVID19 restrictions first implemented by the UK Government in March 2020 brought about significant changes for the higher education sector. The European Commission found that, in summer 2020, 95% of respondents considered the COVID19 crisis "to be a 'turning point' for how technology is used in education and training"[1]. Traditional brick-and-mortar universities in the UK that primarily or solely offered in-person education were impacted by the COVID19 restrictions to a greater extent than universities that primarily or solely offered online courses, such as The Open University. Restrictions on travel and social gatherings prompted traditional UK universities to close their campuses and suspend the majority of in-person teaching. For the final weeks of the 2019-2020 academic year and the majority of the 2020-2021 academic year, education for students enrolled at UK universities was delivered either totally or partially online. In-person lectures, classes and seminars were replaced with pre-recorded videos and lectures live-streamed via video communication services including Zoom, Microsoft Teams and Skype. Physical study-spaces and libraries were closed and replaced with remote studying and digital libraries and, Freshers' Fairs or campus-based social events were replaced with online events.

The swift transition to online education brought about significant academic, social and financial changes for students enrolled at UK universities in 2020 and 2021. This paper highlights the aspects of online education which students perceived to be academically 'effective', including recorded lectures and the temporary increase in access to free online research and data. However, poor internet connection, limited access to suitable study-spaces and the loss of free access to many digital libraries in 2021 negatively impacted a significant number of students' perceptions about the 'effectiveness' of online education. The movement to online assessments in 2020 and 2021, although positively received by many students and examiners, was also perceived by students, educators and policymakers as less 'effective' at preventing cheating through collaboration and essay-writing services. Improving students' access to suitable study-spaces with strong internet connections and increasing the availability of high-quality, free

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[1] The European Commission, (2020), 'Communication from the Commission to the European Parliament, the Council', the European Economic and Social Committee and the Committee of the Regions. Digital Education Action Plan 2021-2027. Resetting education and training for the digital age, Brussels, 30.9.2020 COM(2020) 624 final. Brussels.

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online research is essential for improving students' perceptions about the 'effectiveness' of online education. Cheating in online assessments can also be more effectively prevented by building strong interpersonal relationships between students and educators and, providing additional language and academic support to students struggling with their workloads.

During the pandemic when opportunities for in-person meetings were limited, university students quickly adapted to communicating with their peers via social media, instant messaging services and video communication services. However, the findings of this paper indicate that whilst some students found online communication 'effective' for reducing conflict and forming a broader range of friendships, many students felt less satisfied with their online interactions and suffered from increased feelings of loneliness. Increased mental health support for students and support for student-run groups, such as sports and social clubs, is essential for ensuring that students who felt isolated in 2020 and 2021 can build a strong support network for the 2021-2022 academic year.

Student dissatisfaction with the 'value for money' of their university education also increased substantially in 2021. Addressing current and former students' grievances with their experience of online education during the pandemic will likely be key to the future success of online education in the UK higher education sector. Although the grievances of some students have been resolved through compensation schemes run by UK universities and the Office of the Independent Adjudication (OIA), which have awarded some students partial refunds for their tuition fees, the accessibility and efficiency of these compensation schemes is limited. Increasing the accessibility and efficiency of these schemes is crucial for resolving students' grievances and improving perceptions about the 'value for money' of online university education in the UK.

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Executive Summary

Defining what constitutes an 'effective' education that is 'good value for money' is a challenging and highly contentious issue. Although this paper touches on discussions about how 'effective' online lectures are for students' learning and the 'value for money' of online education for students, it does not present a fixed or narrow understanding of what constitutes an 'effective' education that is 'good value for money'. This paper considers the range of opinions and perceptions that university students have about the 'effectiveness' of online education and its 'value for money' in 2020 and 2021. Students' views on the academic and social 'effectiveness' of online education will be considered alongside their opinions about the 'value for money' of the education that they received during the pandemic. Empirical and anecdotal data on students' opinions and experiences will form the basis of this paper and will provide a broad picture of what students enrolled at UK universities understand by an 'effective' education that is 'good value for money'.

The recommendations in this paper aim to improve future students' academic and social experiences of online education and make online education more 'effective' from a student's perspective. The recommendations are also intended to address some of the grievances that some current and former students have about the 'value for money' of the online education that they received during the pandemic. These recommendations are particularly relevant for universities, including the University of Cambridge, Leeds University, London School of Economics, St. Andrews and the University of Edinburgh, that have stated their intention to continue with aspects of online education into 2022[2].

Below is a brief summary of the challenges that online education in the UK higher education sector currently faces and recommendations for how policymakers, university leaders, educators and students can address them.

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[2] Hazell, W., 'Online lectures: The pandemic accelerated UK universities moving online – and the change will be permanent', iNews, [online], Accessed at:
https://inews.co.uk/news/education/online-lectures-pandemic-uk-universities-1006498 [Accessed July 2021]

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Academic Effectiveness

1.1 Online Lectures, Seminars and Classes

- The perceived 'effectiveness' of online lectures, seminars and classes for teaching was hugely varied among educators and students. Some educators found during the pandemic that video communication services provided them with ample features to effectively teach students intellectual and technical skills. However, others complained that they could not effectively teach skills such as how to use specialist tools. Although students reported finding online teaching effective for learning, others felt they had completed the academic year with less practical skills than they would have liked.

- Discussion between students has also been observed to decrease when classes are moved online. The causes of this decline include educators being less focused on active learning in online classes, students feeling unmotivated, less natural and awkward in online classes and students suffering from poor internet connectivity that causes the sound and video 'lag' or 'buffer'.

- To increase student participation in online class discussions, educators should focus on promoting active learning. This increase can be achieved by having students present to their peers, holding interactive quizzes or having Q&A sessions during online classes. Efforts should also be made to increase access to strong, stable internet connections to ensure that students are not prevented or deterred from participating in class discussions by 'lagging' or 'buffering'.

- The recording of lectures for students to re-watch at their convenience was positively received by students, who found them helpful for revision. University departments and faculties should continue to invest in high-quality sound and video recording equipment to provide students with recorded lectures to complement their revision.

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1.2 Study-spaces

- Quiet study-spaces conducive for asynchronous studying are crucial for enabling students to make the most of their university education. Some students reported that the loss of study-spaces during the pandemic negatively impacted academic experience and performances in 2020 and 2021.

- Several universities have expanded access to study-spaces for students by partnering with companies like WeWork. This is a growing trend in the UK higher education sector and abroad.

- Universities could also expand access to study-spaces without building or acquiring new properties by forming reciprocal agreements with other universities and education institutions.

- Students can contribute to increasing access to study-spaces conducive for asynchronous learning by sharing their experiences of working in communal study-spaces and highlighting areas where universities and private companies improve their provision for students.

1.3 Digital Libraries

- Digital libraries have great potential for expanding access to free, high-quality research and data for students. However, the high costs associated with licencing e-books and subscribing to online journals is regarded by educators and students as limiting access to high-quality online publications.

- To expand access to free, high-quality research and data for students, universities and researchers should promote open access publication. University leaders should encourage researchers to publish their work through open access and should pursue deals with publishers which facilitate more open access content. Increased instruction

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should also be given to students about how they can access and use open access publications.

- Students can contribute to the use and availability of open access publications by asking educators to make their work publicly available, by sharing and promoting links to high-quality open access publications and altering libraries and academic staff when they find themselves without access to free research and data.

- Digital libraries should also be made more user-friendly by streamlining and simplifying the process for accessing materials. Active reading can also be promoted by enabling features that allow students to annotate, draw and make notes on e-books.

1.4 Online Assessments

- Online assessments taken by students in the 2019-2020 and 2020-2021 academic years radically altered the university examination process.

- Online assessments are viewed favourably by both students and examiners. Students and examiners reported that online exam scripts were easier to edit and review. Some students also reported that they experienced less test-anxiety when taking online assessments.

- However, online assessments are perceived by students and university leaders as more conducive for cheating through collaboration and essay-writing services. Current plagiarism-checking technology falls short of recognising some instances where students have paid professionals to write original exam scripts on their behalf. Although the implementation of the 'Essay Mills (Prohibition) Bill 2019-21' would convey to students the severity of cheating in assessments, it is unclear whether this legislation will effectively prevent students from using these services.

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- A more effective way for university leaders and educators to deter collaboration between students and the use of essay-writing services in online assessments is through developing strong interpersonal relationships between students and educators. These relationships can be built through frequent, one-to-one communication between students and educators.

- Studies suggest that international students are frequently users of essay-writing services. Providing additional academic and language support for students who are struggling with their workloads will also deter students from cheating in online assessments.

Social Effectiveness

2.1 Friendships and Mental Health

- Students deftly adapted their means of communication during the pandemic. Social media, instant messaging and video calling services were crucial for connecting students to their peers.

- However, the number of students reporting mental health problems and feelings of loneliness has increased since the beginning of the pandemic. The proportion of university students reporting a decline in their mental health is now greater than that of the general population.

- Increased funding for student mental health support is necessary to increase access to professional support and alleviate the pressure on university counselling services, many of which are already oversubscribed.

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Grievances

3.1 Communication

- Student satisfaction with university education decreased sharply in 2021. Students report feeling misled about the amount of online teaching they would receive and were frustrated with the slow and unclear communication they received from policymakers and university leaders.

- Universities and educators must be realistic about the extent of online and in-person teaching that students can expect to receive in 2021-2022. The expectation that many universities have set that in 2021-2022 in-person teaching with be restored to pre-pandemic levels risks overpromising and underdelivering.

3.2 Value for Money

- Student perceptions about the 'value for money' of university education decreased sharply in 2021. This decline was attributed to the loss of nearly all in-person teaching during the pandemic. Restoring students' confidence in the 'value for money' of online education is crucial for the future of online university education in the UK.

- Loans, subsidies and grants for new technology for online education should be made more accessible for students undertaking online education.

- The compensation schemes run by universities and the OIA should be made more efficient, less complex and more transparent to increase student confidence in them. Students should be alerted when a Large Group Complaint is made at their institution or when one of their peers has made a successful claim.

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Introduction

Online education is the teaching and learning of disciplines totally or partially via the Internet, e-learning programs or online course management tools. Online education in the higher education sector involves teaching or learning university course materials totally or partially via these digital tools. There is significant variation in how online education is delivered. Online education can be asynchronous (when students are not being taught or learning at the same time) or synchronous (when students are all being taught or learning at the same time). Asynchronous online education can take the form of students watching pre-recorded videos at their convenience or undertaking independent reading or research using the Internet. Synchronous online education frequently involves participating in online lectures, seminars or classes live-streamed via video communication services such as Zoom, Skype and Microsoft Teams.

Online university education has been widely available to students in the UK for over 50 years. The Open University, founded in 1969, pioneered the introduction of online university courses in the UK and now has over 175,000 students enrolled on its online courses[3]. Some traditional brick-and-mortar universities have also developed online education offerings. In addition to offering in-person degrees, University College London, the University of Edinburgh, the University of Manchester, King's College London, the University of Warwick, the University of Glasgow, and the University of Sheffield all offer online undergraduate and postgraduate courses. Before the COVID19 pandemic, however, in-person learning remained the focus of most traditional universities in the UK.

During the pandemic, traditional UK universities were forced to transition to online education and taught students totally or partially via the Internet, e-learning programs or online course management tools. The transition to education was met with praise by some students and educators. However, the writing and publication of this paper comes in the wake of a wave of criticism from students and educators about the academic and social 'effectiveness' of online education and its 'value for money'. This paper will assess student perceptions about the

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[3] The Open University (2021), Financial Statements, Accessed at:
http://www.open.ac.uk/foi/main/sites/www.open.ac.uk.foi.main/files/files/Financial_Report_2020_Final.pdf

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'effectiveness' of online education on learning and socialising, as well as their opinions on the

'value for money' of the university education delivered during the pandemic.

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Academic Effectiveness

Methodology

Assessing whether the swift transition from in-person learning to online learning was academically 'effective' for students is challenging because there is disagreement among students and educators about what constitutes 'effective learning'. 'Effective learning' can be measured by the degree to which the learning objectives or goals of the student or the educators is achieved. However, as students do not begin their university courses with the same objectives or goals for their education, it is not possible to identify a single 'learning objective' to measure the 'effectiveness' of learning. Students begin their university courses with a variety of objectives including entering higher education mainly for the intellectual challenge or to prove they are capable of degree-level work or, to obtain a qualification that will enable them to achieve an external professional or personal goal.[4] These intentions are used by many students to measure the effectiveness of their university education. However, some students may measure the 'effectiveness' of their learning in terms of their ability to reproduce knowledge, such as through memorising facts, taking notes or utilising new information. Alternatively, they may use their ability to transform knowledge, such as through forming new ideas, changing one's mind or developing one's personality, to measure the 'effectiveness' of their learning[5]. The variety of outcomes that students use to measure the 'effectiveness' of their learning demonstrates the complexity of assessing whether online education has been academically beneficial for students during the pandemic.

In their paper, Entwistle et al. judged that university students' general academic performance was best indicated by their ability to perform 'Deep Learning' and 'Strategic Studying'. 'Deep Learning', Entwistle et al. state, is learning that aims to generate an understanding of concepts and involves relating ideas to previous knowledge and experience, looking for patterns and organising principles and, checking evidence and logic in relation to conclusions[6]. 'Strategic Studying' aims to achieve high grades in assessments and is achieved through organising and

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[4] Entwistle, N., Thompson, S., Tait, H., (2020) Guidelines for Promoting Effective Learning in Higher Education, Centre for Research on Learning and Instruction, University of Edinburgh, Available at: https://www.researchgate.net/publication/339627823_Guidelines_for_Promoting_Effective_Learning_in_Higher_Education/link/5e5d24004585152ce8ffa7c5/download [Accessed August 2021]
[5] Ibid.
[6] Ibid.

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managing time and effort strategically, being alert to assessment requirements and criteria and, using tutors' comments to improve ways of thinking[7]. Whist students can be aided by educators to develop the skills required for 'Deep Learning' and 'Strategic Studying', students are also required to be active participants in this learning process.

This paper will use accounts from students and educators about their experience of online education in the pandemic to measure whether online education is regarded as 'effective' for learning. Statements given by students about their experience of online education indicate that they are using a variety of measures to assess the 'effectiveness' of their learning. These measures include, but are not limited to, their ability to complete degree-level work, to reproduce and transform knowledge and, perform aspects of what Entwistle et al. call perform 'Deep Learning' and 'Strategic Studying'.

Impacts of the COVID19 Pandemic

1.1 Online Lectures, Seminars and Classes

Background

The closure of university campuses during the three national lockdowns in March 2020, November 2020 and January 2021[8] brought about significant changes in how UK universities taught students. Before the pandemic, in-person teaching at traditional brick-and-mortar universities took many forms. Most students were taught, at least in part, through in-person lectures that involved the educator addressing students in a physical lecture hall, sometimes accompanied with visual aids or a slideshow presentation projected onto a screen. Some educators also utilized physical blackboards to write notes or solve problems for students. Students would sometimes meet in smaller groups to have seminars or tutorials where they would discuss their ideas or essays and have informal debates. University courses that required

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[7]Ibid.

[8]Institute for Government analysis (2021), 'Timeline of UK coronavirus lockdowns, March 2020 to March 2021', Available at: https://www.instituteforgovernment.org.uk/sites/default/files/timeline-lockdown-web.pdf [Accessed July 2021]

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students to develop technical skills, such as carpentry, automotive studies, music and fine art and design, would teach students hands-on skills through in-person instruction in specialist facilities. Courses in the natural sciences and medicine sometimes also required students to undergo clinical instruction or perform laboratory work in specialist facilities. At the end of the 2019-2020 academic year and throughout the 2020-2021 academic year, UK universities largely abandoned in-person teaching and transitioned to teaching students via pre-recorded videos or lectures live-streamed via online communication services. Classes that required specialist facilities and equipment were largely suspended, cancelled or adapted to be taught online.

Impacts and Recommendations

Responses from educators and students about the 'effectiveness' of online classes, lectures and seminars for students' learning were mixed. The Student Academic Experience Survey (SAES) found that 57% of students in the UK preferred mostly in-person learning and only 12% stated that they preferred mostly online learning[9]. The experience of students and educators was similar at universities in other countries. Chakraborty et al.'s survey of 358 students at an Indian university found that 65.9% of students felt that they learn better in a physical classroom than they do online[10]. Although the SAES survey did not explicitly ask students or educators whether they felt that they had missed out on teaching or learning practical skills due to the transition to online learning, studies from universities outside the UK indicate that this may be the case. Elhaty et al.'s study of Turkish universities found that 83.3% of educators and 53.4% of students believed that their ability to teach and learn practical skills was negatively impacted by the transition to online education during the pandemic[11]. The results from this survey are supported by anecdotal evidence from James Rout, associate vice-president of education support and innovation at the B.C. Institute of Technology in Canada, who observed that it was difficult to teach students the skills required for carpentry online: "At some point, if you're

[9]Neves, J., Hewitt, R., (2021), Student Academic Experience Survey, HEPI, Available at: https://www.hepi.ac.uk/wp-content/uploads/2021/06/SAES_2021_FINAL.pdf , [Accessed August 2021]

[10]Chakraborty, P., Mittal P., Gupta, M., Yadav, S., Arora, A., (2020), Opinion of students on online education during the COVID-19 pandemic, Human Behaviour and Emerging Technologies, Vol. 3, Is. 3, Available at: https://onlinelibrary.wiley.com/doi/full/10.1002/hbe2.240, [Accessed August 2021]

[11]Elhaty, I., Elhadary, T., Elgamil, R., Kılıç, H, (2020), 'Teaching University Practical Courses Online during COVID-19 Crisis: A Challenge for ELearning', Journal of Critical Reviews, Available at: https://www.researchgate.net/publication/343189539_Teaching_University_Practical_Courses_Online_during_C OVID-19_Crisis_A_Challenge_for_ELearning [Accessed August 2021]

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teaching carpentry, you have to hammer in a nail…When it gets down to it, you have to train your fingers" [12]. Other educators in Canada teaching courses including automotive studies, fine art and design, medicine and physiotherapy also noted that it was difficult to teach these subjects online as they required a large amount of specialist equipment, such as cars, specialist machinery, specialist chemicals or human subjects[13]. Anecdotal evidence from the SAES further indicates that students in the UK do feel that they have missed out on learning practical skills due to a lack of in-person teaching in 2020 and 2021. One student quoted in the SAES stated that: "As I am on a practical course, although I understand why we cannot meet in person I believe that my quality of education cannot be what I need. They are trying their best but there are some things you can't replace online"[14]. Another stated that: "Fieldwork which was meant to be included in the course but didn't happen due to coronavirus. The ability to go to a uni with free field-trips was one reason I chose (it)"[15]. A third wrote: "I don't feel I learnt what I was supposed to learn (lab skill speaking) in my third year to be prepared for graduate level jobs"[16]. These responses indicate that students who entered their university courses with a variety of objectives, including experiencing fieldtrips and gaining skills for their professional career, did not feel that they had fulfilled their learning objectives as a result of online education. The SAES acknowledges in their report that some UK universities failed to provide opportunities for some students to develop practical skills during the pandemic, stating: "Much of the focus on what students have been missing out on in the last year has been on the face-to-face teaching, such as lectures, seminars and one-to-one support. However, the results of this Survey highlight other factors beyond face-to-face teaching. The loss of field trips, placements and practical elements of study such as labs has been keenly felt by students and the lack of access to these have limited their perceptions of the value gained from their higher education experience. This highlights that we should think more broadly when we consider what

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[12]Study International (2020), 'Courses that are extremely difficult or downright impossible to be taught online', Study International Online, Available at: https://www.studyinternational.com/news/in-person-classes/, [Accessed July 2021]

[13]Bula, F., Xu, X. (2020), 'Some courses simply can't be taught online, say educators', The Globe and Mail, Available at: https://www.theglobeandmail.com/canada/british-columbia/article-some-courses-simply-cant-be-taught-online-say-educators/ [Accessed July 2021]

[14]Neves, J., Hewitt, R., (2021), Student Academic Experience Survey, HEPI, Available at: https://www.hepi.ac.uk/wp-content/uploads/2021/06/SAES_2021_FINAL.pdf , [Accessed August 2021]

[15]Ibid.
[16]Ibid.

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constitutes students' learning experience"[17]. Online education was, therefore, not always seen as an 'effective' way to learn by students and educations because it did not provide the same experience or knowledge as that gained from undertaking fieldwork or clinical and laboratory work.

However, some educators and students reported that online education was 'effective' for learning. The 'online whiteboard' and slideshow features offered by video-steaming applications including Zoom, Microsoft Teams and Skype enabled educators to replicate some aspects of sitting in a physical lecture hall. Educators could use slideshows to provide students with visual aids to accompany the spoken lecture and could use the 'online whiteboard' feature to write notes or demonstrate solutions for students[18]. In their study, Chakraborty et al. found that 58.7% of students found slideshows effective at disseminating information during online classes and 69% found online note-taking programs effective[19]. The 'screen sharing' feature offered by some video-steaming applications also allowed educators to show their computer screens to students, for example, to demonstrate how to use software, solve problems or illustrate programming techniques. Chakraborty et al. found that 72.1% of students felt that online tools for problem solving, programming, and designing can enrich online courses[20]. The results from Chakraborty et al.'s study in India aligns with the experience of Mark Carrigan, Postdoctoral Research Associate at the Faculty of Education at the University of Cambridge, who found the online 'screen sharing' feature particularly effective for teaching programming to social scientists in the UK during the pandemic[21]. Chakraborty et al.'s study and Carrigan's experience illustrate that, in contrast to the experience of Rout and the students quoted in the SAES, some educators and students found online classes to be effective for teaching and learning during the pandemic.

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[17]Ibid.
[18]ViewSonic (2020), 'Online and Virtual Whiteboards – Thoughts From 3 BETT Speakers', ViewSonic, Available at:

https://www.viewsonic.com/library/education/online-virtual-whiteboards/, [Accessed July 2021]

[19]Chakraborty, P., Mittal P., Gupta, M., Yadav, S., Arora, A., (2020), Opinion of students on online education during the COVID-19 pandemic, Human Behaviour and Emerging Technologies, Vol. 3, Is. 3, Available at: https://onlinelibrary.wiley.com/doi/full/10.1002/hbe2.240, [Accessed August 2021]

[20]Ibid.
[21]Carrigan, M., stated in an email to the Editing team on 8th August 2021

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The recording of lectures for students to re-watch at their convenience was also perceived by many students as an effective addition to the teaching they received during the pandemic. One student at the University of Jyvaskyla, which like many UK universities standardised the recording of lectures during the pandemic, stated that: "The lecture recordings are of utmost importance, even if one has participated in the lectures. While doing the course exercises, it has been a tremendous help to revisit the recording instead of just lecture notes, in which the issues are often only briefly addressed"[22]. Many students at UK universities have also embraced using recorded lectures for revision purposes. At Newcastle University it was found that students found re-watching recorded lectures to be helpful, with 72% of students said they frequently or very frequently use Panopto (an online lecture recording and online sharing tool) to re-watch lectures[23]. The main purpose of re-watching lectures, students reported, was for revision and only 11.3% of students stated that they frequently used the recordings to replace attending in-person lectures[24]. This evidence from the UK and abroad indicates that recorded lectures are regarded a valuable tool by students for 'effective' learning through revision.

However, empirical and anecdotal data suggests that online teaching during the pandemic was sometimes less effective than in-person teaching at promoting academic debate or discussion between students. A study by Walsh et al. found that, whilst overall STEM student "behavioural engagement" (i.e. lecture attendance and engagement with education materials) did not change when classes were moved online, students participated less frequently in class discussions when they were moved online during the pandemic[25]. This study found that the decline in participation in class discussions was not linked to students' stress-levels nor their sense of "belonging" in the class. The study concluded that the decline in participation in class discussions was likely due to online classes being "less focused on active learning due to professors struggling to create engaging activities or that students felt less included to participate in the active learning that was occurring"[26]. Anecdotal evidence from social media and student

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[22]University of Jyväskylä, 'Students hope that making of recorded lectures will continue also after COVID-19', Available at: https://www.jyu.fi/science/en/current/current/students-hope-that-making-of-recorded-lectures-will-continue-also-after-covid-19, [Accessed in August 2021]
[23]Panopto's interview with Rowan South, Education Officer at Newcastle University's Student Union, 'Q&A with Rowan South, Education Officer at Newcastle University's Student Union', Available at: https://www.panopto.com/blog/3-in-4-students-rely-on-video-for-revision/, [Accessed August 2021]
[24]Ibid.
[25]Walsh, L., Wester, E., Arango-Caro, A., Callis-Duehl, K., (2021) 'Student Engagement Declines in STEM Undergraduates during COVID-19–Driven Remote Learning', American Society of Microbiology, Available at: https://journals.asm.org/doi/10.1128/jmbe.v22i1.2385, [Accessed August 2021]
[26]Ibid. Walsh et al.

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newspapers appears to confirm Walsh et al.'s conclusion that students felt less motivated to participate in class discussions either because professors were not creating engaging activities or because they felt less motivated to engage. A post from a student on Twitter reading: "Zoom lecture has turned into a podcast I listen to while I clean my room"[27], indicates that some students were not motivated to engage with class discussions when they were held online. An article written by Eli Mendhi for The TAB (the University of Cambridge's Student Newspaper) similarly indicates that students felt unmotivated to participate in online discussions because they found them unengaging and awkward[28]. In her 2017 survey of 27 students studying Communication in Human Organizations, Laura Jacobi found that awkwardness or unnaturalness felt when participating in online lectures and discussion forums was the most common complaint from students who found online education ineffective[29]. This evidence indicates that a combination of professors being less focused on active learning, as well as students feeling unmotivated, more awkward, and less natural in online classes, contributed to the decline in participation in some class discussions during the pandemic.

To increase student participation in class discussions, educators should focus on promoting active learning (i.e. learning through interaction with materials, peers and problems). This can be achieved by proactively involving students in the teaching process. Means of doing this include having students present to their peers during online lectures, holding interactive quizzes, having students solve problems for their classmates and holding live Q&A sessions which require students to ask and answer questions. In her small survey of students, Jacobi found that students favoured weekly asynchronous class discussions that were structured around relevant prompts set by the educator; in one student's words:

> *"Discussions [with prompts] are very open ended and you can go many different routes when approaching a subject. This allows for each person to take their own path, and it really*

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[27] Twitter (2021). @trillaastephh. Available at: https://twitter.com/trillaastephh/status/1364286936483991554 [Accessed 28 March 2021]

[28] Mendhi, Eli (2021). 'Dear academics: Zoom seminars SUCK and Cambridge students want you to stop doing them', The Cambridge Tab. Available at: https://thetab.com/uk/cambridge/2021/02/19/dear-academics-zoom-seminars-suck-and-cambridge-students-want-you-to-stop-doing-them-146943 [Accessed 11 April 2021]

[29] Jacboi, L., (2017), The Structure of Discussions in an Online Communication Course: What Do Students Find Most Effective?, Journal of University Teaching & Learning Practice, V.14, Is.1, Available at: https://files.eric.ed.gov/fulltext/EJ1142366.pdf [Accessed August 2021]

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broadens the learning horizon for other classmates. It allows you to see how they look at subjects and not just how you do"[30].

Jacobi also found that 30% of respondents liked being divided into small groups to discuss topics; they felt that these smaller groups allowed them to "become more familiar with other students" in the class and were "easier to respond to people and ask questions" in[31]. Some students enjoyed using quizzes as a way of testing their knowledge before beginning class discussions, however, some reported that these gave them anxiety and that the discussions were limited if students performed badly in the quizzes[32]. The results of Jacobi's study align with the experience of Dr Eva Hartmann at the Faculty of Education at the University of Cambridge who reported that, in her online lectures, class discussion was increased through use of the 'chat box' function and sending students into 'break-out rooms' where they could discuss issues in smaller groups[33]. This evidence indicates that active forms of learning, such as online discussion forums and small-group discussions, are the best means of engaging students with educational materials and increasing student participation in online lectures.

Mendhi's article also cites poor internet connection as another cause of low student participation in online class discussions. Poor internet connections, which cause interruptions and 'lags' in sound and video content, were cited by many students as the cause of their lack of engagement and participation in online classes[34]. During the first term of the 2020-2021 academic year, the University of Cambridge received several reports from students that poor internet connections were preventing them from accessing online education materials participating in online lectures[35]. Resolving these connectivity problems proved hugely difficult for both students and professional IT staff. The IT department at Gonville and Caius College, the University of Cambridge, highlighted the difficulty of rectifying these connectivity problems, stating that: "Lagging on Zoom is a new problem, and it does depend on many factors including the devices being used and how Zoom has been set up... Unless we [the Gonville and Caius IT team] get dates and times [from students about the problem], it is like finding a

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[30] Ibid.
[31] Ibid.
[32] Ibid.
[33] Hartmann, E. (2021), stated in an email to the Editors
[34] Ibid. Mendhi
[35] An email received from the IT Department at Gonville and Caius College, the University of Cambridge, in April 2021

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needle in a massive haystack"[36]. The Office for Students found that 18% of English students lacked access to the Internet during the pandemic and 52% of students thought that slow internet access had negatively impacted their remote learning during the pandemic[37]. This evidence indicates that insufficient access to stable, strong internet connections is a significant barrier to achieving 'effective' learning for students through online lectures, classes and seminars. Efforts should, therefore, be made to increase assess to strong, stable internet connections to ensure that students are not prevented or deterred from participating in class discussions by poor internet connections.

Some students with disabilities also reported being negatively impacted by the swift transition to online education in the pandemic. For some disabled students, establishing strong personal relationships with their peers and professors is key to assisting their learning[38]. Forming these relationships online was, however, more difficult as online communication did not always offer adequate opportunities for individuals to disclose their disabilities or make accommodations to suit their needs. Some neurodiverse students also reported feeling overwhelmed by the sudden transition to the new online methods of teaching[39]. However, the transition to online-only teaching benefited some disabled students by making education more accessible for them. Not having to travel to a physical campus or contend with large, crowded lecture theatres made accessing educational materials and participating in class discussions more accessible for some students[40]. Finding a balance between the benefits and drawbacks of online teaching will, therefore, be crucial for helping promote access 'effective learning' for disabled and neurodiverse students.

Attending frequent online lectures and classes has also been linked to decreased student enthusiasm for their subject and for learning. Although students enjoyed the freedom and

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[36] Ibid.
[37] Keate, N., (2020) 'Poll shows that 75% of students had no access to quiet study spaces in the pandemic', The Boar, Avalible at: https://theboar.org/2020/09/poll-shows-75-of-students-had-no-access-to-quiet-study-spaces-during-the-pandemic/, (Accessed in August 2021)
[38] Anonymous (2019). 'Neurodiversity and Social Pressure in Distance Education: Role of the Instructor'. Available at: https://ukdiss.com/examples/neurodiversity-social-presence-distance-education.php (Accessed 13 April 2021).
[39] St Amour, Madeline (2020). 'How Neurodivergent Students Are Getting Through the Pandemic'. Available at: https://www.insidehighered.com/news/2020/05/13/neurodivergent-students-face-challenges-quick-switch-remote-learning (Accessed 13 April 2021).
[40] Anonymous. 'How Online Learning Can Benefit The Disabled Student'. Available at: https://www.online-bachelor-degrees.com/online-learning-benefits-disabled-student/ (Accessible 15 May 2021).

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flexibility that online teaching gave them to choose when and where they took their classes[41], surveys suggest that students' enthusiasm for learning decreased during the pandemic. Walsh et al. found that STEM students reported a "drastic decline in positive attitudes towards science"[42]. Chakraborty et al. similarly found that 82.7% of students felt that online education was leading to overuse of digital technologies and 74.6% felt that excessive screen time was causing them stress and affecting their sleep[43]. Studies have also found that online learning increases students' risk of developing 'Zoom fatigue' and 'burn out' which, in turn, negatively impact students' attitudes towards their subject and learning[44]. These results indicate that online teaching is somewhat less 'effective' than in-person teaching for some students as it has a greater negative impact on students' attitudes towards learning and appears less likely to instil a lifelong love of learning in students.

In an attempt to combat the negative impacts of online education on students' physical health and attitudes to learning, some educators took measures to reduce the amount of time students were expected to spend on Zoom and other online video-streaming services. Psychological research suggests that frequent online lectures, particularly ones over 30 minutes long, have the potential to negatively impact students' academic engagement, performance and attitude to learning[45]. Educators who reduced the length of lectures, implemented breaks in their classes and used a combination of synchronous and asynchronous teaching (i.e. a mix of teaching led by the educator and teaching led by the students) found that students' engagement increased

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[41] Ranga, J.S. (2020), 'Online engagement of commuter students in a general chemistry course during COVID-19', *Journal of Chemical Education,* 97:2866–2870

[42] Walsh, L., Wester, E., Arango-Caro, A., Callis-Duehl, K., (2021) 'Student Engagement Declines in STEM Undergraduates during COVID-19–Driven Remote Learning', American Society of Microbiology, Available at: https://journals.asm.org/doi/10.1128/jmbe.v22i1.2385, [Accessed August 2021]

[43] Chakraborty, P., Mittal P., Gupta, M., Yadav, S., Arora, A., (2020), Opinion of students on online education during the COVID-19 pandemic, Human Behaviour and Emerging Technologies, Vol. 3, Is. 3, Available at: https://onlinelibrary.wiley.com/doi/full/10.1002/hbe2.240, [Accessed August 2021]

[44] Fuentes, Carlos (2020). 'Zoom fatigue and all-nighters: Online learning takes a toll on students' mental health', The Beacon. Available at: https://www.upbeacon.com/article/2020/10/zoom-fatigue-and-all-nighters-online-learning-takes-a-toll-on-students-mental-health (Accessed 13 April 2021); Navarro, Natalie (2021). 'Online learning causes academic burnout in students', The Cougar Chronicle. Available at: https://csusmchronicle.com/21658/opinion/online-learning-causes-academic-burnout-in-students/ (Accessed 13 April 2021).

[45] Lynch, Laura (2019). 'How Long Should Videos Be For E-Learning'. Available at: https://www.learndash.com/how-long-should-videos-be-for-e-learning/ (Accessed 15 May 2021); Winstead, Scott. 'What's the Optimal Length of an e-Learning course?' Available at: https://myelearningworld.com/whats-the-optimal-length-of-an-e-learning-course/ (Accessed 15 May 2021).

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and their attitudes to learning were more positive[46]. These results indicate that, if they have not year done so, educators should take measures to shorten their online classes, implement breaks in their classes, and deliver educational materials through a variety of synchronous and asynchronous methods.

Conclusion

In conclusion, for courses that required students to undergo hands-on training and use specialist materials, such as chemicals, musical instruments and human subjects, online teaching was not always viewed as 'effective' for learning by educators or students. It was also observed that when some classes were moved online during the pandemic, student participation in class discussion decreased. This decrease can be attributed to educators being less focused on active learning in online classes, students feeling unmotivated, less natural and awkward in online classes and students suffering from poor internet connectivity that causes the sound and video 'lag' or 'buffer'. To increase student participation in class discussions, educators should focus on promoting active learning and efforts should be made to increase access to strong, stable internet connections should be increased. The recording of lectures for students to re-watch at their convenience was also positively received by students. Universities that have not yet done so should invest in high-quality sound and video recording equipment to provide students with recorded lectures to complement their revision.

1.2 Study-spaces

Background

The transition to online education in 2020 and 2021 radically changed where university students undertook synchronous and asynchronous learning (learning alongside their peers and learning performed alone). Before the pandemic, university campuses provided students with convenient access to study-spaces conducive for asynchronous learning (learning not

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[46]Yale Poorva Centre, (2021) 'Engaging Students through Zoom', Available at:
https://academiccontinuity.yale.edu/faculty/how-guides/zoom/engaging-students-through-zoom [Accessed August 2021]

Stanford, Teaching Commons (2021), 'Solve Common Online Teaching Problems', Available at:
https://teachingcommons.stanford.edu/explore-teaching-guides/remote-teaching-guide/getting-started/solve-common-online-teaching-problems#zoom [Accessed August 2021]

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performed alongside their peers). University libraries, common rooms and private study rooms provided students with access to quiet, well-organised environments conducive for reading, essay-writing and performing research. However, during the three national lockdowns when access to university campuses and public buildings was limited, many students were unable to access spaces conducive for asynchronous learning. Student surveys indicate that the sudden loss of communal study-spaces and the transition to remote studying had an overwhelmingly negative impact on students' experiences of asynchronous learning in the pandemic.

Impacts and Recommendations

The partial or full closure of communal study-spaces in 2020 and 2021 reduced many students to studying in their noisy family homes or university accommodation. A survey of 689 students from 71 UK universities found that, during the pandemic, 77% of students were having to study in noisy environments that they felt hindered their academic performance[47]. The Office for Students' online survey of 1416 UK students similarly found that 72% of students reported that their academic work was negatively impacted by a lack of access to quiet study-spaces during the pandemic[48]. This evidence indicates that students feel like they cannot make the most of their online education without access to quiet study-spaces. To ensure that more students have positive academic experiences of online education, universities that require students to study remotely should ensure that their students have access to quiet study-spaces that are conducive for asynchronous learning. The Society of College, National and University Libraries (SCONUL) Access Scheme, used by The Open University and other UK universities, offers one example of how universities can better support students who are studying remotely.

Through the SCONUL Access Scheme students at The Open University, as well as at other UK institutions, can access physical university libraries and study-spaces in their local areas[49]. This scheme provides students enrolled in online degrees with access to quiet study-spaces, books, and academic journals to support their remote studying. Disappointingly, this scheme was suspended during the pandemic and is only anticipated to reopen for the beginning of the

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[47] The 93% Foundation (2021). Working Environments Survey.
[48] Office for Students (2020). "Digital poverty" risks leaving students behind. [online] www.officeforstudents.org.uk. Available at: https://www.officeforstudents.org.uk/news-blog-and-events/press-and-media/digital-poverty-risks-leaving-students-behind/.
[49] Clough, H. (2011). Libraries near you. [online] www.open.ac.uk. Available at: https://www.open.ac.uk/library/libraries-near-you [Accessed 8 July 2021].

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2021-2022 academic year[50]. The suspension of the SCONUL Access Scheme represented a significant loss for many students, as it left many with limited access to suitable study-spaces. If circumstances similar to the COVID19 pandemic were to arise again, university leaders and policymakers should aim not to suspend schemes such as the SCONUL Access Scheme and should allow them, where possible, to continue to provide students with access to study-spaces to support their learning.

UK universities could also increase student access to communal study-spaces and academic resources by making reciprocal agreements that enable students to use facilities owned by other institutions. For example, a reciprocal agreement between King's College London and the University of Edinburgh would benefit students who live in London and attend university in Edinburgh, or vice versa, as it would enable them to use King's study-spaces in the holidays and Edinburgh's study-spaces during term-time. These reciprocal agreements would be particularly beneficial for students who attend university many miles away from their family homes.

During the pandemic, many international students enrolled at universities in the UK and other countries were also left feeling that they did not have sufficient access to suitable study-spaces[51]. Providing suitable study-spaces for international students poses a significant challenge for UK universities, as it requires international cooperation and planning. However, in 2020 and 2021, Columbia University in the United States found a solution to this problem. Columbia provided its international students with free membership to designated WeWork spaces in over 80 cities around the world[52]. These WeWork facilities offered large numbers of international students access to convenient study-spaces that were quiet, had fast internet connections and were well-organised. The University of Rochester is also currently working with WeWork to provide work and study areas to undergraduate students who are living in China and studying

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[50]Statement posted to their website: "We are sorry to say that the SCONUL Access Scheme remains suspended at present as requirements for social distancing make it unfeasible for many institutions to open their library to external visitors... It is unlikely that the scheme will reopen fully before the start of the next academic year (2021-22). This is the earliest possible date for reopening.", https://www.sconul.ac.uk/sconul-access, [Accessed 15th July 2021].

[51]Nuffic, (2021), 'The experience of international students at Dutch higher education institutions during the COVID19 pandemic', Available at: https://ecio.nl/wp-content/uploads/sites/2/2021/02/2021-02-experience-of-international-students-at-dutch-he-institutions-the-covid-19-pandemic.pdf (Accessed in August 2021) WeWork, (2020), 'Spaces to study and extend the university experience', Available at: https://www.wework.com/ideas/workspace-solutions/flexible-products/spaces-to-study-and-extend-the-university-experience (Accessed August 2021)

[52]Columbia University (n.d.). UIIS Access | Columbia Global Centers. [online] globalcenters.columbia.edu. Available at: https://globalcenters.columbia.edu/uiis-access#/cu_card_group-27236 [Accessed 8th July 2021]

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remotely[53]. The use of co-working spaces like WeWork's by university students has, however, been gradually increasing for several years. In 2018, 2U (a digital graduate-level education platform which partners with US universities and business schools) formed a partnership with WeWork to provide its students with study-spaces[54]. WeWork also previously owned a coding education business, Flatiron School, which has seen 140% growth in graduates since 2018 and was sold in 2020 to Carrick Capital Partners[55]. Universities in the UK and abroad which partnered with WeWork during the pandemic to increase access to study-spaces for students can, therefore, be seen as part of a growing trend of higher education institutions using private co-working companies to source study-space for students. In 2021, New York University took out a WeWork lease near its Shanghai campus to increase access to study-spaces for more than 3,000 Chinese undergraduate and graduate students[56]. Purdue University in Indiana, United State, has also recently partnered with Carr Workplaces to increase access to study-spaces for students and the University of Melbourne is creating a tech hub within its Melbourne Connect innovation precinct in partnership with the YBF[57]. John Mortensen, education solutions lead in APAC for JLL's Work Dynamics group (a commercial real estate services company), claims that the reason for this growing trend in the higher education sector is that, in light of increased pressure on university funds, universities are looking for more cost-effective ways of providing study-spaces for students and generating new streams of income; in his words: "Universities are facing huge pressure to reimagine how education is delivered and the role of the campus. They're thinking about how to transition campuses from being single-purpose, and not very well utilised, to being highly efficient, tightly run enterprises that cross pollinate with the community and industry to deliver the best education and employment outcomes and also

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[53]WeWork, (2020), 'Spaces to study and extend the university experience', Available at: https://www.wework.com/ideas/workspace-solutions/flexible-products/spaces-to-study-and-extend-the-university-experience [Accessed August 2021]

[54]Atack, P., (2020), 'Digital education platform partners with WeWork', The Pie News, Available at: https://thepienews.com/news/digital-education-platform-partners-with-wework/ [Accessed August 2021]

[55]Luden, I., (2018), 'WeWork expands its Flatiron School education business to London with £1M in scholarships', TechCrunch, Available at: https://techcrunch.com/2018/03/13/wework-expands-its-flatiron-school-education-business-to-london-with-1m-in-scholarships/, [Accessed 8th July 2021]

[56]WeWork (2021), 'How WeWork helps universities tackle reopening in the autumn', Available at: https://www.wework.com/en-GB/ideas/workspace-solutions/flexible-products/how-wework-helps-universities-tackle-reopening-in-the-fall, [Accessed August 2021]

[57]JLL, (2021), 'Why co-working spaces are popping up on campus: Universities are looking to partner with flexible space providers amid a revenue crunch', JLL Website, Available at: https://www.jll.co.uk/en/trends-and-insights/workplace/why-co-working-spaces-are-popping-up-on-campus [Accessed August 2021]

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generate cash flow"[58]. If pressure on university funding continues and student demand for more study-space increases, it is likely that more universities will look to co-working companies for solutions.

UK universities looking to expand access to study-spaces for students but who do not what to partner with private companies like WeWork, there is another solution. UK universities could form partnerships with institutions in other countries, such as universities in the United States or Europe, and form reciprocal agreements that allow students to use the study-spaces owned by these institutions. These international agreements would provide students with increased access to study-spaces in a range of global locations at a financial cost far less than if they were to acquire, rent or build their own spaces. There are, therefore, a wide range of ways that universities looking to expand student access to study-spaces could achieve this goal.

However, there is limited data on how students have responded to having study-spaces provided through university partnerships, such as those with WeWork. Students can play a valuable role in increasing access to suitable study-spaces by sharing their experience of using communal study-spaces and highlighting areas where universities and private companies can improve their provision. Students should also alert institutions when they find themselves without access to suitable study-spaces and should work with their universities to create convenient study-spaces appropriate for asynchronous learning.

Conclusion

In conclusion, quiet study-spaces conducive for reading, essay-writing, and conducting research are perceived by students as crucial for helping them to learn 'effectively'. For universities seeking to expand their online offering, ensuring that all students have access to suitable study spaces is key to improving student perceptions about the 'effectiveness' of online education. There are several ways that universities can expand access to study-spaces for students without building or acquiring new properties, such as through partnering with co-working companies or other institutions. Students should also make their experiences of co-working spaces known to providers and work with educators to create study-spaces conducive to asynchronous learning.

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[58]Ibid. John Mortensen quoted by JLL

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1.3 Digital Libraries

Background

During the three national lockdowns when access to physical university libraries was restricted, the use of digital libraries by university students increased[59]. In contrast to 'click-and-collect' services that required students to travel to university libraries to collect physical resources, digital libraries allowed students to remotely access resources via the Internet. Digital libraries gave students around the world 24-hour access to e-books, including digital textbooks and online academic journals.

Impacts and Recommendations

The frustrations that university leaders and students have with the high costs associated with accessing high-quality research have been exacerbated during the pandemic. At the beginning of the pandemic, university students in the UK benefited from temporary free e-book services. In 2020, some publishers, including the Taylor & Francis Group, gave universities and students free temporary access to digital libraries with thousands of e-textbooks and online journals[60]. Some publishers also extended photocopying and scanning licenses which enabled universities to digitalise physical resources and share them with students at no extra cost[61]. These services were a significant benefit for students during the pandemic, as they provided quick and convenient access to a large number of digital books and academic papers.

However, the majority of these free services and license extensions expired at the end of June 2020[62]. Whilst some universities chose to pay subscription fees to give students continued access to these online resources, some universities, deterred by the high cost of subscriptions

[59]Greenhall, M. (2020), 'RLUK: Covid-19 and the digital shift in action', Available at: https://www.rluk.ac.uk/wp-content/uploads/2020/06/Covid19-and-the-digital-shift-in-action-report-FINAL.pdf (Accessed in August 2021)
[60]Joint Information Systems Committee (2020). Free student e-textbook programme to give university students and staff access to learning resources. [online] Jisc. Available at: https://www.jisc.ac.uk/news/free-student-etextbook-programme-18-mar-2020 [Accessed 8 Jul. 2021].
[61]Ibid.

[62]ExLibris Knowledge Centre (2020), 'List of COVID-19 and Temporarily Free Resources', Available at: https://knowledge.exlibrisgroup.com/360_KB/Knowledge_Articles/List_of_COVID-19_and_Temporarily_Free_Resources, [Accessed July 2021]

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and frustrated by the current pricing model of academic publishers[63], did not pay to continue the online services[64]. As a result, by the start of the 2020-2021 academic year, large numbers of students in the UK and elsewhere had lost access to a wealth of online resources and were left with inadequate access to suitable online resources to support their remote studying. Student dissatisfaction with the amount of permanent affordable online services is reflected in the Office for Students' survey that found that, in 2020, 56% of students felt that their studies had been negatively impacted by insufficient access to appropriate online materials[65]. While some students may have been able to pay for personal subscriptions to publications, the high cost of these services that often cost around £100 per year[66] makes them inaccessible to a large number of students. Increasing access to affordable online resources is crucial for ensuring that all students feel that they have sufficient access to research and data to support their studies[67]. Open Educational Resources (OER) published via open access offers one solution to this problem. In contrast to paying subscription fees to access published research and data, open access would allow individuals to access research and data for free. The one-off cost of publishing for open access research can be funded in various ways. Research and data published in Free Open Access Journals, such as, PeerJ and CORE, are fully funded by institutions or by the writers[68]. Alternatively, academic publications can be freely deposited in a publicly accessible online trust repository run by a research organisation or published through an institution, library or society[69].

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[63]Fazackerley, A. (2021). "Price gouging from Covid": student ebooks costing up to 500% more than in print. The Guardian. [online] 29 Jan. Available at: https://www.theguardian.com/education/2021/jan/29/price-gouging-from-covid-student-ebooks-costing-up-to-500-more-than-in-print [Accessed July 2021].
Pool, R. (2021). The rise and rise of ebook prices. [online] www.researchinformation.info. Available at: https://www.researchinformation.info/feature/rise-and-rise-ebook-prices [Accessed 8th July 2021].
[64]Examples include The University of Cambridge; https://www.libraries.cam.ac.uk/cessation-access-online-content-temporarily-opened-covid-19-outbreak, the State University of New York (SUNY); https://www.sciencemag.org/news/2020/07/tool-saving-universities-millions-dollars-journal-subscriptions, complaints about the high pricing of digital libraries were also raised by Research Libraries UK (RLUK) and the Society of College, National and University Libraries (SOCNUL); https://www.researchprofessionalnews.com/rr-news-uk-universities-2020-8-libraries-will-ditch-publishers-who-don-t-give-covid-discounts/
[65]McKie, A., (2020), 'Lack of study space and poor connections hinder online learning', https://www.timeshighereducation.com/news/lack-study-space-and-poor-connections-hinder-online-learning, [Accessed 15th July 2021]
[66]Examples include: Oxford Academic, Economic Policy papers, personal access, £83 per year; Harvard Law School, annual journal for UK students $37-$62 per year; British Medical Journal, person online access, £134+VAT per year; New Scientist, personal print subscription, around £113 per year.
[67]Sparc, (2020), 'Pandemic Amplifies Trouble with Restrict Licencing and E-Textbooks', Available at: https://sparcopen.org/news/2020/pandemic-amplifies-trouble-with-restrictive-licensing-and-e-textbooks/ (Accessed in August 2021)
[68]Open Access.nl, Available at: https://www.openaccess.nl/en/what-is-open-access, [Accessed August 2021]
[69]Ibid.

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Efforts have been made by organisations including UK Research and Innovation (UKRI), The Open Research Data Task Force, the Science and Technology Facilities Council (STFC) and the European Research Commission (ERC) which runs the Open Research Data Pilot to increase access to high-quality, free research via the Internet. UK universities, including the University of Exeter and the University of Glasgow, have implemented policies that encourage researchers to pursue open access publication. The University of California has also recently agreed on an open access agreement with the world's largest scientific publisher, Elsevier[70]. This agreement will allow academic research to be published in free-to-read formats and at a lower cost to students. In March 2021, UK institutions, assisted by Jisc, began their own open access negotiations with Elsevier[71]. These negotiations are hoped will lead to an increase in the amount of high-quality research that future students will be able to access for free or at a low cost.

Efforts to make research and data freely available have been praised by educators and members of the academic and publishing community. Inchcoombe, the chief publishing officer at Springer Nature, stated that: "Open access is absolutely in the best interest of the research process...If you can pay once and then it's free for everybody, you eliminate a lot of the friction from the system of access and entitlement"[72]. Dr. Gary Ward, Professor of Microbiology & Molecular Genetics at the University of Vermont, also commented that it was difficult to provide students with up-to-date information when recent research is kept behind a paywall, in his words:

> *"In my role as educator, I often find myself teaching my graduate and medical students what I have access to rather than what they most need to know. Just as one example, in a recent lecture I was preparing for our medical students... I was only able to access about two thirds of the articles that I needed in order to make sure that I was providing these budding young doctors with everything they needed to know about the subject. I can tell you that's extremely frustrating to me as an educator and it's clearly not in the*

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[70]Kell, G. (2021). UC's deal with Elsevier: What it took, what it means, why it matters. [online] University of California. Available at: https://www.universityofcalifornia.edu/news/uc-s-deal-elsevier-what-it-took-what-it-means-why-it-matters [Accessed 8th July 2021].
[71]Boyle, P. (2021). Covid-19 underlines the need for full open access. [online] Times Higher Education. Available at: https://www.timeshighereducation.com/blog/covid-19-underlines-need-full-open-access [Accessed 8th July 2021].
[72]Resnick B., Belluz, J., (2019), 'The War to Free Science', Available at: https://www.vox.com/the-highlight/2019/6/3/18271538/open-access-elsevier-california-sci-hub-academic-paywalls, [Accessed August 2021]

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best interests of my students. This problem isn't unique to the University of Vermont. Every academic institution faces this problem – from the best-funded private institutions down to the small liberal arts colleges and community colleges. It's just a question of degree."[73]

Open access publications have also been positively received by many students in European nations. A survey of 668 users of a Finnish open access journal, Journal.fi, found that 40% of users were students[74]. Becker and van Helvoort also found that students and young researchers at Loughborough University often favoured open access publications to traditional subscription publications because there was a greater ability to share articles and research with their peers[75]. However, several studies have shown that there is a lack of knowledge among university students about how to find and use open access publications[76].

University leaders can increase access to open access publications by continuing to pursue agreements with large publishers which will facilitate greater access to free and low-cost research and data. Educators should also increase the amount of teaching and information available to students about open access publications to ensure that all students know how to access and use them. Students can also promote the publication and use of open access research and data by asking educators to make their work publicly available, sharing and promoting links to high-

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[73]Ward, G. quoted by The Right To Research Coalition in 'Why Open Access', Available at http://www.righttoresearch.org/learn/whyOA/index.shtml, [Accessed August 2021]

[74] Pölönen, J., Syrjämäki, S., Nygård, A.J, Hammarfelt, B. (2021), 'Who are the users of national open access journals? The case of the Finnish Journal.fi platform', Wiley Online Library, Available at: https://onlinelibrary.wiley.com/doi/10.1002/leap.1405, [Accessed August 2021]

[75]Becker, P., van Helvoort, J., (2007), 'Benefits of Open Access Publishing for students in higher education', ResearchGate, Available at: https://www.researchgate.net/publication/28807540_Benefits_of_Open_Access_Publishing_for_students_in_higher_education, [Accessed August 2021]

[76]Holden, I., (2018), 'Open Access and Students in Information Literacy Class: A Quest for Understanding', JLAMS, Vol. 14, Is. 1, Available at: https://scholarsarchive.library.albany.edu/cgi/viewcontent.cgi?article=1033&context=jlams, [Accessed August 2021]

Ivwighreghweta, O., Onoriode, O., (2012), 'Awareness and Use of Open Access Journals by LIS Students at the University of Ibadan, Nigeria', Library Philosophy and Practice (e-journal), Available at: https://digitalcommons.unl.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1793&context=libphilprac [Accessed August 2021]

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quality open access journals and alerting library and academic staff when they find themselves without access to free research and data[77].

During the pandemic, students also suffered some practical challenges when using digital libraries. In their study of a library department at the University of New Mexico, Pierard and his colleagues found that students frequently struggled with navigating the interfaces and web pages of digital libraries. Students frequently did not find it straightforward to view, download or print out sections of e-books available through digital libraries[78]. A flowchart, created by a frustrated student, illustrates the lengthy process that they were required to undertake when completing an online reading assignment. This process had more than 20 steps and required them to repeatedly log into the university website and external publishing sites (Figure 1.1). Increasing the simplicity of online services and streamlining the process of reading online materials is essential for improving student experiences of digital libraries.

Studies indicate that 'active reading' (when students actively engage with reading material, such as by making notes, annotating, asking questions or critically assessing the text) is more beneficial for understanding and memorising information than 'passive reading' (when students read without undertaking any other simultaneous actions)[79]. Currently, some e-book programs enable students to highlight text, mark pages and copy-and-paste sections of text into different documents (however, how much information students can copy from an e-book is frequently restricted by copyright and licencing agreements). Utilising programs that allow students to annotate e-books by typing notes and draw diagrams will enable students to engage in more 'active reading' and use e-books more 'effectively' for learning.

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[77]Kamdar, A., (2013), 'Three Things Students Can Do Now to Promote Open Access', Electronic Frontier Foundation, Available at: https://www.eff.org/deeplinks/2013/01/three-things-students-can-do-now-promote-open-access, [Accessed August 2021]

[78]Pierard, C., Svihla, V., Clement, S.K. and Fazio, B.-S. (2020). Undesirable Difficulties: Investigating Barriers to Students' Learning with Ebooks in a Semester-length Course | Pierard | College & Research Libraries. crl.acrl.org, [online] 81(2). Available at: https://crl.acrl.org/index.php/crl/article/view/24330/ [Accessed 26 Oct. 2020].

[79]The Open University, 'Critical Reading Techniques', Available at: https://help.open.ac.uk/active-reading , [Accessed August 2021]

Princeton University, The McGraw Centre for Teaching and Learning, 'Active Reading Strategies: Remember and Analyse What You Read', Available at: https://mcgraw.princeton.edu/active-reading-strategies, [Accessed August 2021]

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Studies have also shown that prolonged use of e-books and online journals can cause eyestrain and fatigue in students[80]. To mitigate the negative physical impacts of using online resources, universities should encourage students to take more breaks when reading online e-books and articles. This can be achieved by having systems that alert students when they have spent over a certain amount of time continuously reading an e-book.

E-books also have the potential to increase access to academic resources for students with disabilities. The ability to change the size and type of font in e-books and add audio substitutes to online text has increased the accessibility of e-books and other online resources for students with impaired vision, dyslexia, and other conditions. Significant progress with expanding the accessibility of online resources has been made by The Open University, which has reviewed 106 online databases and e-journals and offers tips to students on how to navigate these resources[81]. In instances where online articles or books are not accessible to students, the Library Services at The Open University can also convert the resource into a Word document at the request of students[82]. University librarians at the University of Cambridge have also increased accessibility to online resources by collaborating with other university staff to raise awareness about the issues with digital libraries. For example, at the University of Cambridge Faculty of Education, librarians work closely with course leaders and lectures to ensure that reading lists are provided to library staff in advance. This cooperation between academic staff and libraries allowed the Faculty of Education to scan, digitalise and upload over 70 resources for students during the 2020-21 academic year[83]. Increased communication between academic, library staff and students is, therefore, crucial for ensuring that all students can benefit from the use of digital libraries.

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[80]Jeong, H. (2012). A comparison of the influence of electronic books and paper books on reading comprehension, eye fatigue, and perception. The Electronic Library, 30(3), pp.390–408.
[81]Huzar, G. (2011). Databases with accessibility issues. [online] www.open.ac.uk. Available at: https://www.open.ac.uk/library/help-and-support/databases-accessibility-issues?collection=856 [Accessed 8th July 2021].
[82]Ibid.

[83]Cambridge Faculty of Education Blog (2020), FYI: For Your Information, Available at: https://edfaclib.wordpress.com, [Accessed July 2021]

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Conclusion

In conclusion, digital libraries have the potential to greatly increase access to free and low-cost research and data for students. However, the high costs associated with licencing e-books and online journals have deterred some universities from expanding their digital offering. To ensure that all students have access to a sufficient amount of high-quality online resources, universities should encourage researchers to publish through open access and should pursue negotiations with publishers to expand online access to free and low-cost research and data. They should also increase the amount of information students receive about how to find and use open access resources. Modifications should be made to e-book platforms to simplify the process of finding resources and enable more 'active reading' by students. Academic staff and students should also be encouraged to communicate more frequently to improve access to high-quality online resources.
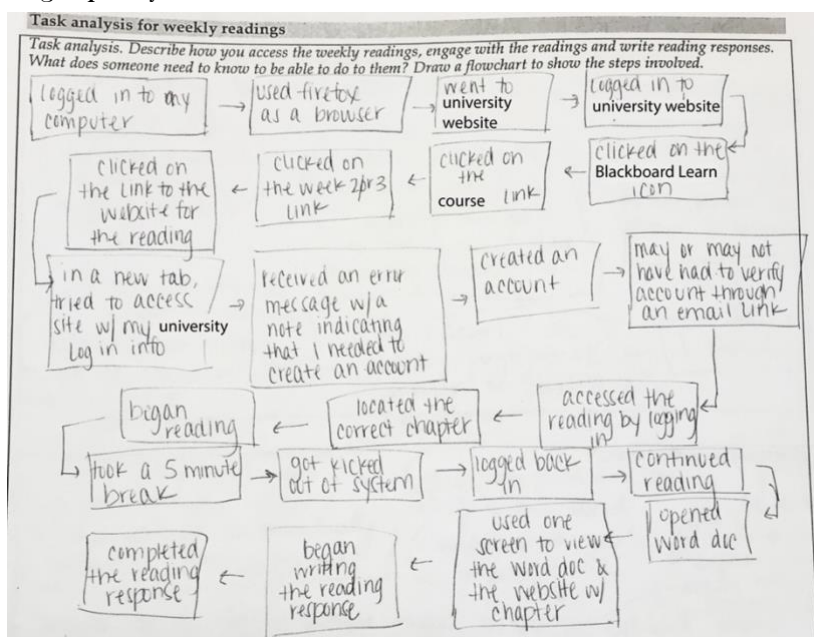

Figure 1.1

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1.4 Online Assessments

Background

In response to the closure of university campuses during the national lockdowns, UK universities largely abandoned traditional methods of assessment in the 2019-2020 academic year[84]. Instead of sitting in-person assessments on university campuses, the majority of students took their exams at their homes or university residences and submitted them via the Internet. The continuation of social distancing measures and limits on indoor gatherings in 2021 saw online assessments continue into the 2020-2021 academic year[85].

Online assessments in 2020 and 2021 took various forms. Some students sat 'open-book' assessments that enabled them to access external resources including their notes, university resources and the internet[86]. However, other students sat 'closed-book' assessments that forbid them from accessing external resources. The length of time students had to complete their assessments also varied significantly. Some university courses chose to replicate the timeframes of in-person assessments (typically between 2-3 hours), whilst others gave students a number of days to complete their online assessments[87].

[84]BBC News (2020), 'Coronavirus: More universities halt teaching and exams', Accessed at: https://www.bbc.com/news/education-51880355 [Accessed July 2021]; The Russell Group, Russell Group statement on university assessments, Accessed at: https://www.russellgroup.ac.uk/news/russell-group-statement-on-university-assessments/ [Accessed July 2021]

[85]University of Exeter, Exams and assessments, Current students, Available at: https://www.exeter.ac.uk/students/exams/ [Accessed July 2021]; UCL (2020) Exams 2021, Teaching & Learning. Available at: https://www.ucl.ac.uk/teaching-learning/assessment-resources/operation-exams-and-assessments/exams-2021 [Accessed July 2021]; University of Reading, Take home online exams, Available at: https://www.reading.ac.uk/essentials/Student-life/Exams-and-assessments-2021/Take-home-online-exams [Accessed July 2021]

[86]University of Kent, Student guidance for online exams 2021, Available at: https://www.kent.ac.uk/ [Accessed July 2021]; University of Leeds, Online open exams, Available at: https://library.leeds.ac.uk/info/99039/online_learning/191/online_open_exams [Accessed July 2021]; University of Oxford, Trinity term exams, Available at: https://www.ox.ac.uk/students/academic/exams/open-book/trinity-term [Accessed July 2021]

[87]UCL (2020) Exams 2021, Teaching & Learning. Available at: https://www.ucl.ac.uk/teaching-learning/assessment-resources/operation-exams-and-assessments/exams-2021 [Accessed July 2021]

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Impacts and Recommendations

Online assessments are typically viewed favourably by university students. Surveys of undergraduate and post-graduate students' responses to online assessments have shown that frequently over 50% of students enrolled on university courses prefer online assessments to in-person assessments[88]. Reasons for this preference include increased speed and ease in writing and editing responses, greater flexibility for completing assessments and greater time efficiency[89]. The University of Manchester also highlighted that students benefited from increased efficiency in the marking of online scripts, which examiners find more convenient and quicker to mark than hand-written scripts. A high percentage of students also regard online assessments as "a more authentic assessment experience" because there are more consistencies between the online environment and their future real-world environment[90]. This positive student response to online assessments shows that a large number of students would likely support a more permanent and extensive movement towards keeping online assessments beyond the COVID19 pandemic.

Online assessments have also been found to have some mental health benefits for students. In their study of 69 psychology undergraduates, Stowell and Bennett found that students who typically experienced high levels of anxiety in in-person assessments experienced lower anxiety levels when completing online assessments[91]. Their study suggests that, for students who typically experience high levels of test anxiety, online assessments may be preferable. Furthermore, as high levels test anxiety have been found to have a negative impact on test results, some groups of students may perform better in online assessments than they would in traditional in-person assessments[92].

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[88]Butler-Henderson K., Crawford J. (2020), 'A Systematic Review of Online Assessments: A Pedagogical Innovation for Scalable Authentication and Integrity', Computers & Education, Vol. 159, Accessed at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7508171/, [Accessed July 2021]
[89]Ibid.
[90]The University of Manchester (2014), 'Benefits of Summative Online Exams, Teaching and Learning Support Office', Accessed at: https://documents.manchester.ac.uk/DocuInfo.aspx?DocID=23141, [Accessed July 2021]
[91]Stowell J.R, Bennett D. (2010), 'Effects of Online Testing on Student Exam Performance and Test Anxiety' Journal of Educational Computing Research, Vol. *42*(2), pp. 161–171, Accessed at: https://doi.org/10.2190/EC.42.2.b, [Accessed July 2021]
[92]Ibid.

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Despite the favourable views that some students have of online assessments and their potential to alleviate test anxiety, online assessments have not been found to universally improve the academic performance of students. There is little evidence to suggest that university students, in general, perform better in online assessments than in in-person assessments[93]. Therefore, while there is no obvious academic disadvantage for students taking online assessments, there is no conclusive evidence that online assessments produce better academic outcomes than in-person assessments.

However, online assessments are perceived by the majority of students as creating an environment more conducive to cheating than in-person assessments[94]. Online assessments that are not directly overseen by invigilators are understood to create an environment where students can easily discuss questions and collaborate on answers through in-person meetings, instant messaging services or via social media. Educators have also raised concerns about the potential for cheating in online assessments. Documents leaked in April 2021 from the University of Bristol acknowledge the scale of the problem of cheating in online assessments; in their words: "online assessment has exacerbated collusion and breaches in academic integrity"[95]. Taking measures to prevent collaboration between students in online assessments is essential for ensuring that students and educators do not lose confidence in the university assessment system. Dr Daniel Sokol, a barrister at 12 King's Bench Walk, stated in *The Telegraph* that students felt dissatisfied with the scale of cheating in online assessments and that he had: "one student who said the degree is worthless – even the students seem to think that the degree has no worth and they just have to get it. We're seeing a massive rise [in cheating] but I still think that the number of people caught are a small fraction"[96]. Dr Sokol's advice for university educators was to warn students about the consequences of cheating in assessments, such as telling students about the negative impacts of cheating on their degree and employment prospects.

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[93]Gold S., Mozes-Carmel, A. (2009), 'A Comparison of Online vs. Proctored Final Exams in Online Classes', Journal of Educational Technology, Vol. 6 n1, pp. 76-81,
Accessed at: http://www.imanagerpublications.com, [Accessed July 2021]
[94]Attia M.A (2014), 'Postgraduate Students' Perceptions toward Online Assessment: The Case of the Faculty of Education, Umm Al-Qura University', Education for a Knowledge Society in Arabian Gulf Countries, Vol. 24, Emerald Group Publishing Limited, Accessed at: https://doi.org/10.1108/S1479-367920140000024015, [Accessed July 2021]
[95]Somerville E. (2021), 'Entire Student Houses Caught Cheating in Online University Exams', The Telegraph, Accessed at: https://www.telegraph.co.uk/news/2021/06/28/entire-student-houses-caught-cheating-online-university-exams/, [Accessed July 2021]
[96]Ibid.

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In addition to warning students about the consequences of cheating in online assessments, universities can minimise the potential for cheating by continuing to invest in new plagiarism-checking technology. Plagiarism tools currently used by universities, such as Turnitin, Dupli Checker, Small SEO Tools and PlagiarismDetector.net, work to catch plagiarism in scripts by comparing students' work with work stored in the digital system. Plagiarism-checking technology, such as Turnitin, that compares students' work with that produced by students in other years and at other faculties and universities is likely to be the most effective tool for catching colluding students.

Unfortunately, even the most sophisticated plagiarism-checking technology currently falls short in catching all instances where students pay professionals to write original exam scripts on their behalf. Companies that facilitate essay-writing services for students include OxbridgeEssays, UKEssays and EssayWritingLab. These services guarantee "plagiarism-free" essays for students and offer quick turnaround times (between 3 hours and 10 days per essay). These services make it feasible for students to commission original essays for their online assessments and submit them under their own name. *The Guardian* has reported an increase in cheating in university assessments since 2014 and, citing evidence from a survey conducted by Philip Newton at Swansea University's medical school, stated that up to one in seven students globally are thought to have paid someone else to complete university work[97]. Essay-writing services pose a significant problem to the future of online assessments as their use may undermine student confidence in the fairness and accuracy of the university assessment process.

Chris Skidmore, the former universities minister, has campaigned to make essay-writing services illegal[98]. In May 2021, a private members' bill, the 'Essay Mills (Prohibition) Bill 2019-21', was introduced to Parliament to bring UK legislation in line with legislation in the United States, Australia, New Zealand and Ireland, where these services are illegal[99]. Although banning essay-writing services is intended to offer an efficient, long-term solution to the problem of

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[97]Adams, R., (2018), Essay writing services must be banned to stop cheating, say academics, The Guardian, Available at: https://www.theguardian.com/education/2018/aug/31/essay-writing-services-must-be-banned-to-stop-cheating-say-academics, (Accessed in August 2021)
[98]Skidmore C., (2021), Speech on Essay Mills, UKPOL.CO.UK, Available at: https://www.ukpol.co.uk/chris-skidmore-2021-speech-on-essay-mills/ [Accessed: 24 July 2021]
[99]Skidmore, C. (2021), Essay Mills (Prohibition) Bill 2019-21, Accessed at: https://bills.parliament.uk/bills/2830, [Accessed: 24 July 2021]

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cheating in online assessments, it is unclear whether legislation can achieve this outcome. Data from New Zealand on the impact of legislation, implemented in 2011, prohibiting essay-writing services is unclear on whether this legislation has prevented the use of these services or merely driven them underground[100]. Legislation in Australia, implemented in 2020, has resulted the banning of essay-writing services such as EssayShark and Custom Writings, which remain available in the UK[101]. Although commentators suggest that this ban has been effective in conveying to students the importance of not cheating in their online assessments[102], the effectiveness of this ban at preventing students from using these services is unclear[103]. Therefore, whilst the 'Essay Mills (Prohibition) Bill 2019-21' may help emphasise to students the severity of cheating in online assessments, it is unclear whether this legislation will assure educators and students of the integrity of online assessments.

Research conducted by Tracy Bretag in Australia indicates that a more effective way of preventing cheating in online assessments is through building strong, interpersonal relationships between students and educators; in Bretag's words, "All our research shows one of the most constructive factors in combating cheating is when there are good relationships between academic staff and students – when they get to know each other"[104]. Developing strong personal relationships between academic staff and students can be achieved through one-to-one meetings (either online or in-person) and frequent online communication, such as via email. In these meetings, educators should emphasise the importance of integrity, truthfulness and academic rigour to students. Assigning students a personal academic or pastoral mentor would also help students to communicate their concerns and feel supported[105].

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[100]Viper, (2019) 'The Banning of Essay Mills and the Role of Plagiarism Checkers', Viper Blog, Available at: https://blog.scanmyessay.com/2019/05/01/essay-mills-and-plagiarism-checkers/, [Accessed August 2021]
[101]Rowley, J., (2021), 'Legislation to ban essay mills is missing the link to combat education fraud', WONKHE, Available at: https://wonkhe.com/blogs/legislation-to-ban-essay-mills-is-the-missing-link-to-combat-education-fraud/ [Accessed August 2021]

[102]Anderson, D., (2020), 'Australia Bans Essay Mills: What's Next for the Industry?', I Hate Writing Essays, Available at: https://www.ihatewritingessays.com/australia-ban [Accessed August 2021]

[103]Ibid. Viper
[104]Bretag, T., quoted by Hare , J. (2019) in 'Letter from Australia: Paying the price for cheating', WONKHE, Available at: https://wonkhe.com/blogs/letter-from-australia-paying-the-price-for-cheating/, [Accessed August 2021]

[105]Rockoff, J., (2008), 'Does Mentoring Reduce Turnover and Improve Skills of New Employees? Evidence from Teachers in New York City', Available at: https://www.nber.org/papers/w13868 [Accessed August 2021]

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Bretag also found that cheating in online assessments was more prevalent among international students than domestic students[106]. Bretag's findings are echoed by **Dr Sokol** who reported to *The Telegraph* that the majority of students whom he had encountered using essay-writing services in the UK were international students who are: "often short on time, lack confidence, are under stress or in a state of panic, have language issues, and believe it's an easy way out of their predicament"[107]. To deter students in these circumstances from turning to cheating or essay-writing services in online assessments, universities should offer additional academic or pastoral support to students who are struggling with their work. Providing additional academic support, such as more one-to-one tuition, English language support, supplementary reading material and practice examination papers, will give students greater confidence in their work and academic opinions and may discourage them from resorting to cheating.

Technological issues also pose a challenge for students taking online assessments. Although severe technological issues during online assessments are unusual, when they occur they frequently cause significant problems for students. During the online UK Bar assessments in August 2020, several students suffered as a result of technical faults during the assessment. One student who was affected by technological issues during their assessment tweeted:

"I checked in[to the online examination system]. Screen was black, but chat function worked & I was asked to face the screen. I repeatedly asked where my exam paper was. After 10-15 mins the chat function disconnected. I sat for 2 hours with a black screen. I couldn't even exit the program."[108]

Another student, also hindered by technical issues, complained that their examination was interrupted by connectivity issues. They wrote on Twitter:

"In the middle of my ethics exam, the exam cut out. It then started loading again but would not reconnect to allow me to edit or submit answers. I could see my most recent answer to question 4B had been deleted and the timer was still counting."[109]

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[106]Ibid. Bretag
[107]Ibid. Somerville

[108]Rose, N. (2020), 'Bar Students Hit by Technical Failures in First Online Test', Legal Futures, Available at: https://www.legalfutures.co.uk/latest-news/bar-students-hit-by-technical-failures-in-first-online-test, [Accessed on July 2021]
[109]Ibid.

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These examples illustrate how technological problems can have devastating impacts on student performance in online assessments and may cause them to have to re-take assessments. To correct this problem, universities should ensure that their online assessment systems are equipped for a large number of simultaneous users. Universities should also provide students taking online assessments with telephone numbers, email addresses or external 'chat functions' that they can use to contact exam administrators or university staff in case of a technological problem. Technological problems in online assessments, therefore, have the potential to be effectively overcome through the implementation of mitigation measures.

Conclusion

In conclusion, online assessments have the potential to play a significant role in the future of higher education. The positive perception that a large number of students have about online assessments highlights the psychological and academic benefits that they are perceived as having. However, greater potential for collaboration between students and the use of essay-writing services poses a threat to the fairness and integrity of online university assessments. Although passing the 'Essay Mills (Prohibition) Bill 2019-21' may convey the seriousness of cheating in online assessments to students, it is unclear whether this will effectively prevent students from cheating. A more effective way to prevent cheating in online assessments is through building strong relationships between students and educators. Assigning students a personal mentor and encouraging frequent contact between students and educators will provide a good foundation for building these relationships. Overcoming the technological problems of online assessments is also crucial. This can be achieved through increased IT support for students during online assessments.

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Social Effectiveness

Methodology

Defining whether a form of communication or social interaction is 'socially effective' is a difficult task as there is little consensus on what constitutes 'social effectiveness'. Magnusen and Perrewé state that 'social effectiveness' can be: "explained in terms of [an] individual's ability to identify, comprehend, and attain effective social networks that can produce advantageous career and life outcomes"[110]. 'Social effectiveness' can also be equated with forming 'friendships', which are understood as "a state of enduring affection, esteem, intimacy, and trust between two people"[111]. Research undertaken by Picton et al. found that students had a variety of different views about the purpose of social networks and the role of friendships in their lives[112]. Some students' replies indicated that they desired friendships with individuals with similar interests and that they saw social networks as 'effective' when they enabled them to meet these kinds of people and do things together. One student stated that: "I guess I'll be able to meet people who are into, you know, similar things as me because they're doing the same course", and another stated: "I think that's what I'm excited for and excited to meet people that are doing the same thing as me and really interested in it and just meeting new people really"[113].

However, some students saw value in social networks that made them feel comfortable and regarded these as 'effective'; one student stated: "I just kinda wanna [*sic*] make, like, new friends and feel comfortable in, like, going to classes and stuff"[114]. Other students reported that they wanted to form social networks that would support their learning; in one student's words: "Hanging around people that are likeminded, having study groups and stuff that are formed and being able to stick with them"[115]. These replies indicate that students arrive at university

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[110]Magnusen, M. & Perrewé, P. (2016), 'The Role of Social Effectiveness in Leadership: A Critical Review and Lessons for Sport Management'*, Sport Management Education Journal,* Available at: https://www.researchgate.net/publication/301569286_The_Role_of_Social_Effectiveness_in_Leadership_A_Critical_Review_and_Lessons_for_Sport_Management, [Accessed August 2021]

[111]Furman, W., 'Friendship: Definition', *Britannica*, Available at: https://www.britannica.com/topic/friendship [Accessed August 2021]

[112]Picton, C., Kahu, E., Nelson, K. (2017), Friendship supported learning – the role of friendships in first-year students' university experiences, University of the Sunshine Coast, Available at: https://unistars.org/papers/STARS2017/08A.pdf , [Accessed August 2021]

[113]Ibid.
[114]Ibid.
[115]Ibid.

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with a variety of views about the purpose of social networks and the importance of friendships in their lives. 'Loneliness' can be understood as the absence of feelings of 'belonging', 'friendship' and 'social intimacy' or 'connectedness'[116]. As the Higher Education Policy Institute (HEPI) and Unite Students found, to experience both 'social intimacy' and 'belonging' it is not enough simply to have friends, but also to be able to identify with them on a fundamental level[117]. This lack of 'social intimacy' and 'belonging' is perhaps what, in 2019, 4% of students meant when they stated that they feel 'lonely' *all the time* or what 22% meant when they stated that they *often* feel 'lonely' (Figure 2.1)[118]. Feelings of 'loneliness' have also been associated with poorer mental health, which can be understood as having a poorer state of wellbeing which makes individuals less able to, among other things, realise their potential, cope with the normal stresses of life, work productively and fruitfully, and make a contribution to their community[119]. Rather than providing a narrow understanding of 'social effectiveness', 'friendships' or 'loneliness', this paper will consider a wide range of student views about the purpose of social networks and friends, and what makes social interactions and communication 'effective'.

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[116]Shaw, J., (2020), 'The importance of student friendships', HEPI, Available at:
https://www.hepi.ac.uk/2020/10/12/the-importance-of-student-friendships/, [Accessed: August 2021]
[117]Ibid. Shaw
[118]Unite Students & HEPI, (2019), The New Realists: Unite Students Insight Report, Available at:
https://www.unite-group.co.uk/sites/default/files/2019-09/new-realists-insight-report-2019.pdf, [Accessed: August 2021]
[119]Ibid. Unite Students
Imperial College website quoting the Mental Health Foundation, Available at:
https://www.imperial.ac.uk/counselling/mental-health-guidelines/definition/, Accessed: August 2021]

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Impacts of the COVID19 Pandemic

2.1 Friendships and Mental Health

Background

The transition to online education profoundly impacted the social lives of university students. The closure of university campuses prompted students to connect with their peers and make new friends through alternative online forms of communication. Whilst some students benefited from the convenience and control that online communication offered, over half of students in the UK felt 'very dissatisfied' or 'dissatisfied' with their university social experience in 2020[120]. The impact of the three national lockdowns on university students' friendships and mental health is likely to continue to be felt into the 2021-2022 academic year and perhaps beyond.

Impacts and Recommendations

Numerous studies have found that strong social networks and friendships are psychologically and academically beneficial for university students. Developing the skills to identify, comprehend, and attain effective social networks or friendships is crucial for university students, especially for students in their first year. In their work, Picton et al. supported the findings of several other studies that found that developing strong social networks that facilitated "peer-supported learning" (where students felt academically and socially supported by their peers) helped students to "achieve a sense of belonging, and in doing so enhances both persistence and retention"[121]. DeAngelo also found that students were more likely to progress to their second year when they engaged in discussions about course content outside of class[122].

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[120] Office for National Statistics (2020) *Coronavirus and the Impact on Students in Higher Education in England: September to December 2020.* Available at:
https://www.ons.gov.uk/peoplepopulationandcommunity/educationandchildcare/articles/coronavirusandtheimpactonstudentsinhighereducationinenglandseptembertodecember2020/2020-12-21 [Accessed: 5th April 2021]
[121] Picton, C., Kahu, E., Nelson, K. (2017), 'Friendship supported learning – the role of friendships in first-year students' university experiences', University of the Sunshine Coast, Available at:
https://unistars.org/papers/STARS2017/08A.pdf , [Accessed August 2021]

[122] DeAngelo, L. (2014). Programs and practices that retain students from the first to second year: Results from a national study. *New Directions for Institutional Research, 21*(2), 53-75. doi:10.1002/ir.20061

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Friendships were also found to have "substantial benefits for positive psychosocial student experiences", including developing a sense of wellbeing at university, and in life more generally[123]. Through providing a range of social support mechanisms, including feedback, reassurance, encouragement, and a sense of social belonging friendships mediate pathways to student wellbeing[124]. This data on the importance of friendships is supported by anecdotal evidence from Unite Students Insight Report, 2019. One university applicant stated that: "I am most happy when I am with my friends", with another current student stating: "Friends regularly support me even if they don't realise it"[125]. These studies convey the importance of developing strong social networks and friendships between students for their psychosocial and academic wellbeing.

Between 27th February and 3rd March, we conducted an online survey of 101 students at the University of Cambridge. The survey was advertised through social media and word-of-mouth and asked students to respond to multiple-choice questions about changes in their methods of communication with their peers[126]. Responses to this survey painted a broad picture of students' experiences and social lives during the previous and current academic years. However, the limitations of this survey were that it sampled a very small number of students at only one institution, it only measured their responses at one point in time, and only enabled students to respond via a pre-determined set of answers. Nevertheless, the responses present a 'snap-shot' of students' social experiences and friendships in 2020 and 2021.

Our survey found that, during the national lockdowns, students adapted to communicating with their peers almost solely online. Prior to the closure of university campuses, the majority of respondents stated that they had maintained friendships through in-person meetings in restaurants, halls, cafes and nightclubs (Figure 2.2). A large percentage of students also maintained their friendships through in-person meetings in academic settings and extracurricular activities, including lectures, organised societies and sports. However, during the lockdowns, the majority of students turned to online forms of communication to maintain their friendships (Figure 2.3). The most popular forms of online communication were instant

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[123]Ibid. Picton et al.
[124]Ibid.
[125]Unite Students & HEPI, (2019), The New Realists: Unite Students Insight Report, Available at:
https://www.unite-group.co.uk/sites/default/files/2019-09/new-realists-insight-report-2019.pdf, [Accessed: August 2021]
[126]See Appendix for the questionnaire and full data from the survey, Figure A

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messaging services and, phone and video calls. A number of respondents also stated that they had used longer forms of written communication, including letters and emails, to communicate with their friends.

Notably, students' desire to build and maintain their friendships was not diminished during the national lockdowns. Our survey found that the proportion of students who made no attempt to communicate with their friends during the national lockdowns did not increase from the pre-pandemic level. Students' willingness to transition to online forms of communication can also be seen as a consequence of the availability and inexpensiveness of communication technology. Services including Facebook, Instagram, WhatsApp, Zoom, and Skype provide students with a low-cost way of communicating with their peers. Millennials' and Generation Z's familiarity with these online services also likely contributed to their ability to swiftly transition to online forms of communication in lockdown[127].

This swift transition to online communication benefited students by decreasing the amount of inter-student conflict. The University of California, Irvine, found that online conversations which afforded individuals more time to draft responses were more effective at reducing conflict between participants than in-person conversations[128]. This study indicates that students using instant messaging were in a better position to avoid unnecessary conflict than those who met in person. The removal of students from campus environments may have also contributed to a decrease in inter-student conflict over living arrangements, such as paying rent and cleaning accommodation.

Comments made by Dr Deborah Talmi, Director for Curriculum Development at the Cambridge Department of Psychology, suggest that the national lockdowns may have also broadened the range of friendships that university students built. Dr Talmi stated that information from a survey conducted by the Department of Psychology at the University of Sheffield suggested that, whilst friendships formed through in-person meetings were often based on shared interests and similar circumstances, online communication allowed for

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[127] Medone, L.M. (2019) *Understanding Digital Native Parents' Perspectives of Flipped Classrooms: An Exploratory Case Study* (Doctoral dissertation, Northcentral University).
[128] UCI (2017) *Teens' online friendships just as meaningful as face-to-face ones, UCI study finds.* Available at: *https://news.uci.edu/2017/09/26/teens-online-friendships-just-as-meaningful-as-face-to-face-ones-uci-study-finds/#:~:text=On%20the%20plus%20side%2C%20online,a%20response%20to%20something%20upsetting* [Accessed: 26th March 2021].

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students to form friendships with individuals whom they may not have otherwise met on campus[129]. The transition to online communication can, therefore, be seen as enabling students to broaden their friendship-groups and make friendships with individuals from a wider variety of backgrounds.

The transition to online communication also saw the proliferation of large anonymous online groups. These anonymous groups have been found to encourage more honest discussions of sensitive topics between students and create a sense of a collective community (Figures 2.3-2.5). Online forums and pages, such as Unifessions and Camfess, enable students to ask questions, share anecdotes and make complaints in an anonymous manner. There are also online support groups that give more specialised advice, such as Student Space run by the charity Student Minds which offers support for students struggling with their mental health and the International Students UK Facebooks page which acts as a support network for international students. These online forums and pages provide students with a space to engage in an honest discussion about university life and share resources and advice with their peers. Increased activity on social media sites and online public forums during the pandemic[130] indicates that they served as a crucial support tool for all people during lockdown, including students.

Some disabled students also found the transition to online communication beneficial. Dobransky and Hargittai found that online communication can effectively empower disabled students to build and maintain friendships by giving them more control over how, when and if they disclose their disabilities to others[131.]. Online forums and communities focused on the experiences of disabled students, such as the Cambridge Student Union Disabled Students' Campaign and Leeds University Union Disabled Student Network, help individuals to quickly build strong support networks and reach out to others to talk about their experiences (Figures 2.4-2.6). These online forums and communities have also been found to be more "democratic" than in-person discussions as they are less likely to be dominated by one individual and are

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[129]A conversation with Dr Deborah Talmi, Director for Curriculum Development at the Cambridge Department of Psychology.

[130]Barr, S. (2021), 'At times like these, connection is more important than ever': how to manage your screen time and social media use during lockdown', *The Independent*, Available at: [Accessed July 2021]

[131] Dobransky, K. and Hargittai, E. (2021) Piercing the Pandemic Social Bubble: Disability and Social Media Use About COVID-19. *American Behavioral Scientist*, p.00027642211003146.

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more likely to acknowledge a range of participants' opinions[132]. This evidence suggests that online communication can benefit students, in particular those with disabilities, by giving individuals greater control over their social interactions and allowing them to share their experiences more easily and freely with others. Some neurodiverse students also found the transition to online communication helpful because it allowed them to have more control over their social interactions[133]. A fresher with dyspraxia and social anxiety at the University of Cambridge stated that they were more comfortable conducting social interactions online because there were fewer "social rules" or social dynamics than in in-person meetings[134]. This anecdotal evidence suggests that online communication can act as a useful tool for helping some neurodiverse students to meet and interact with their peers. Online communication should, therefore, not necessarily be considered inferior to in-person meetings in all circumstances. The benefits of online communication felt by some students in 2020 and 2021 highlight the continued need for universities, student unions, and student social clubs to integrate online communication into the student experience and provide a range of inclusive ways for students to build and maintain friendships on- and off-campus.

However, despite the benefits of online communication, students frequently report feeling less satisfied with the quality of their online interactions. In her research on loneliness in the pandemic, Dr Jenny Groake found that students frequently reported feeling dissatisfied with the quality of their online social interactions and often felt lonelier as a result of their poor online interactions[135]. She also found that no online interaction could provide an adequate substitute for the feelings of intimacy and connection provided by face-to-face encounters[136]. Added technological and physical challenges of online communication, such as sound delays and video 'buffering', eyestrain, and 'Zoom fatigue', also contributed to students' feelings of frustration and dissatisfaction with online communication[137]. Anecdotes reported in an article by the BBC suggest that, in addition to dissatisfaction with long-term online interactions, people

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[132]Anderson, B. (2004) Dimensions of learning and support in an online community. *Open Learning: The Journal of Open, Distance and e-Learning, 19*(2), pp.183-190.

[133]St. Amour, M. (2020) *How Neurodivergent Students Are Getting Through the Pandemic.* Available at: *https://www.insidehighered.com/news/2020/05/13/neurodivergent-students-face-challenges-quick-switch-remote-learning* [Accessed: 26th March 2021].

[134]A conversation with a student at The University of Cambridge in 2021

[135] Gill, V. (2020) *Lockdown may have lasting effects on friendships.* Available at: *https://www.bbc.co.uk/news/science-environment-53909243* [Accessed: 20th March 2021].

[136]Ibid.

[137]Lee, J. (2020), 'A Neuropsychological Exploration of Zoom Fatigue', *The Psychiatric Times,* Available at: https://www.psychiatrictimes.com/view/psychological-exploration-zoom-fatigue, [Accessed July 2021]

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feel that online communication is less conducive for quick and spontaneous conversations[138]. This empirical and anecdotal data indicates that online communication cannot always match the quality of the interpersonal connections developed through in-person meetings. For this reason, increased support for in-person, student-run groups, such as societies and sports clubs, should be prioritised in 2021-2022 and perhaps beyond. By expanding access to student-run groups, educators and student leaders can ensure that individuals who felt lonely or dissatisfied in 2020 and 2021 will be more able to integrate into the university community and build a strong support network for future academic years.

Groake's findings are also consistent with the results from the Understanding Society Survey, which found that around 10% more people in the UK always or often felt lonely as a result of the pandemic (Figure 2.7). The threat of loneliness for students is particularly concerning, especially for freshers who may have recently moved into a new environment and may lack a strong local support network. A recent study by Ihm et al. found an increase in students self-reporting deteriorations in their mental health[139]. The UK charity, Mind, similarly found that 73% of students felt that their mental health had declined during lockdown[140]. Freshers, in particular, commonly reported feelings of disappointment in the loss of a 'normal' university experience and feelings of sadness that it was more difficult to make new friends at university[141]. The Office for National Statistics (ONS) also found that in the Autumn Term of 2020 the majority of students (53%) reported feeling 'very dissatisfied' or 'dissatisfied' with their university social experience[142].

Experts predict that the mental health fall-out from the COVID19 pandemic will be severe, especially for younger people[143]. In preparation for this eventuality, in late March 2021, the UK

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[138] Ribeiro, C. (2020), 'How lockdowns are changing our friendship groups', *BBC News*, Available at: *https://www.bbc.com/worklife/article/20201005-how-covid-19-is-changing-our-social-networks* [Accessed: 20th March 2021].

[139] Ihm, L., Zhang, H., van Vijfeijken, A. and Waugh, M.G. (2021) Impacts of the Covid-19 pandemic on the health of university students. *The International Journal of Health Planning and Management*.

[140] Mind (2020) *Student mental health during coronavirus.* Available at: *https://www.mind.org.uk/information-support/coronavirus/student-mental-health-during-coronavirus/* [Accessed: 27th March 2021].

[141] Ibid.

[142] Office for National Statistics (2020) *Coronavirus and the Impact on Students in Higher Education in England: September to December 2020.* Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/educationandchildcare/articles/coronavirusandtheimpactonstudentsinhighereducationinenglandseptembertodecember2020/2020-12-21 [Accessed: 5th April 2021]

[143] Resolution Foundation, 'Double jobs and mental health crisis facing young people risks outlasting the pandemic', Available at https://www.resolutionfoundation.org/press-releases/double-jobs-and-mental-health-crisis-facing-young-people-risks-outlasting-the-pandemic/, [Accessed July 2021]

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Government announced plans to spend £500 million to expand mental health services, specifically targeting vulnerable groups[144]. This paper expects that UK universities will also face an increase in demand for mental health services, such as counselling for students. However, many universities are already struggling to meet demand for their services. One example is Cambridge University's Disability Resource Centre which, according to a Cambridge Student Union report, is currently "at breaking point" with wait times for students stretching into months[145]. Solving this current problem is crucial and, to meet increased future demand for these services, access to them must be immediately expanded. Increased university funding for these services and increased cooperation with NHS services will be crucial for promptly resolving these issues and providing students with adequate access to mental health services.

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[144] Marshallsea, T. (2021) *Government announces £500m pandemic mental health plan.* Available at: https://www.standard.co.uk/news/uk/nhs-government-matt-hancock-samaritans-ceo-b926564.html [Accessed: 5th April 2021]

[145] Health, R. (2021) *Disability Resource Centre 'at breaking point' according to Cambridge SU report.* Available at: https://thetab.com/uk/cambridge/2021/01/19/disability-resource-centre-at-breaking-point-according-to-cambridge-su-report-143970 [Accessed: 5th April 2021]

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Conclusion

In conclusion, online communication undoubtedly provided a valuable lifeline for students during the national lockdowns when their social interactions were severely limited. Online forums and pages offered a valuable means of communication for students, in particular those with disabilities and neurodiverse students. However, online communication alone proved insufficient for building and maintaining emotionally satisfactory friendships for a significant number of students. Increases in student dissatisfaction and reports of loneliness indicate that online communication during the pandemic was detrimental to many students' mental health. Increased mental health funding and funding for student groups, such as social and sports clubs, will provide students with a valuable means of support as they begin to build new friendships in the wake of the pandemic.

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Graph 5
Impact of loneliness on wellbeing measures

Base:
All students. Q13. 694 students answering "I often feel lonely"
or "I always feel lonely", 1434 answering "I occasionally feel lonely", 445 students answering "I never feel lonely"

Question:
Q0. A. Overall, how satisfied are you with your life nowadays? B. Overall, to what extent do you feel the things you do in your life are worthwhile?
C. Overall, how happy did you feel yesterday? % of respondents answers 6 or above out of 10
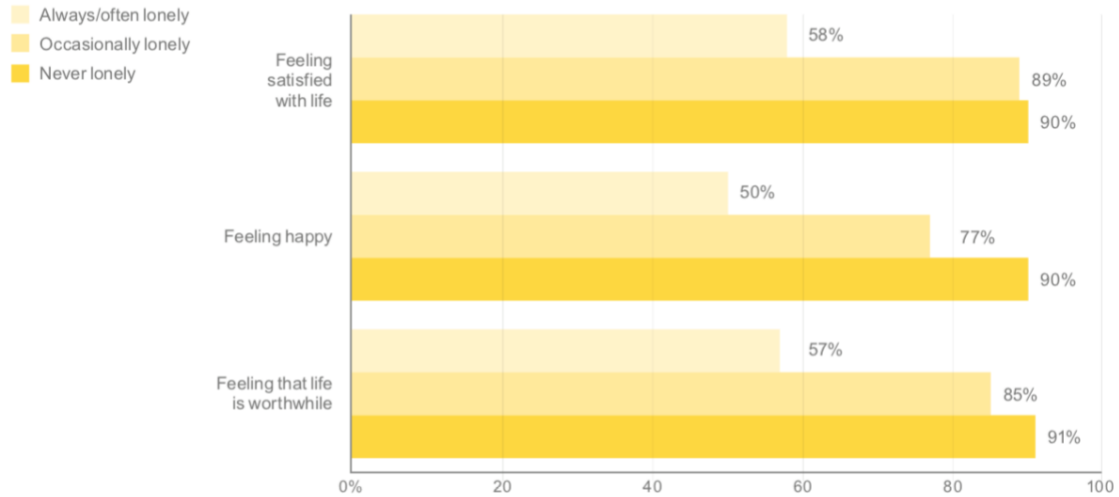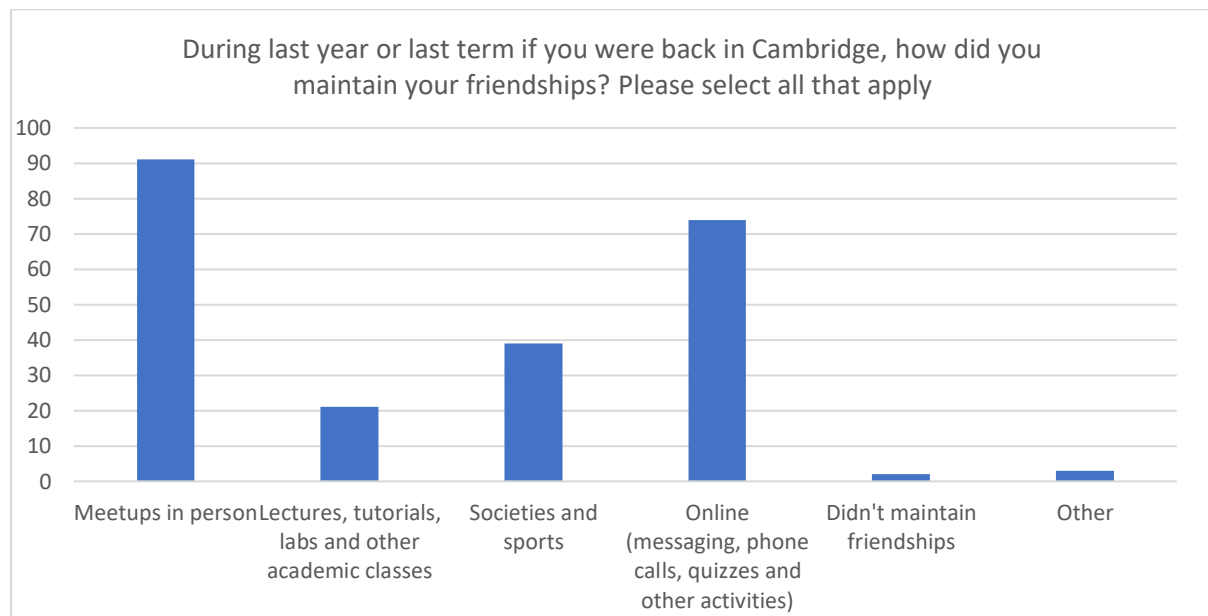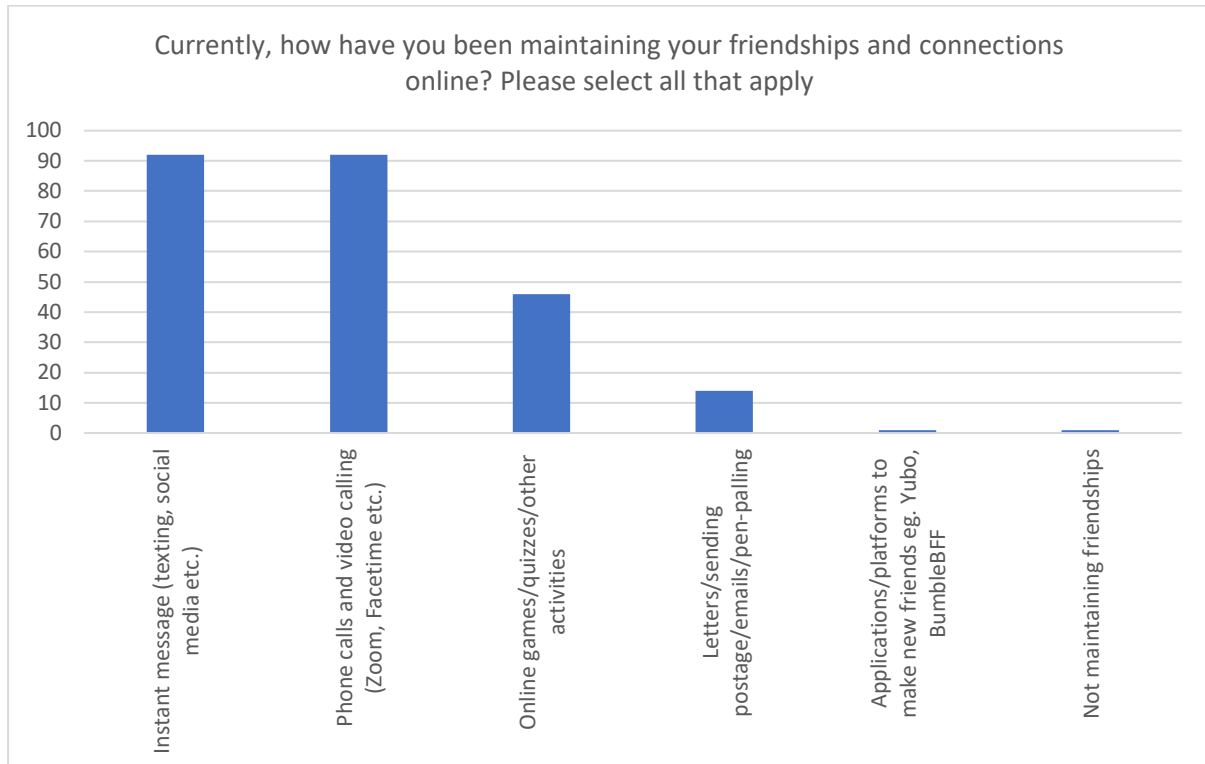

Figure 2.1

Figure 2.2

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Currently, how have you been maintaining your friendships and connections online? Please select all that apply

Figure 2.3

Figure 2.4

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Figure 2.5

Figure 2.6

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Figure 2.7

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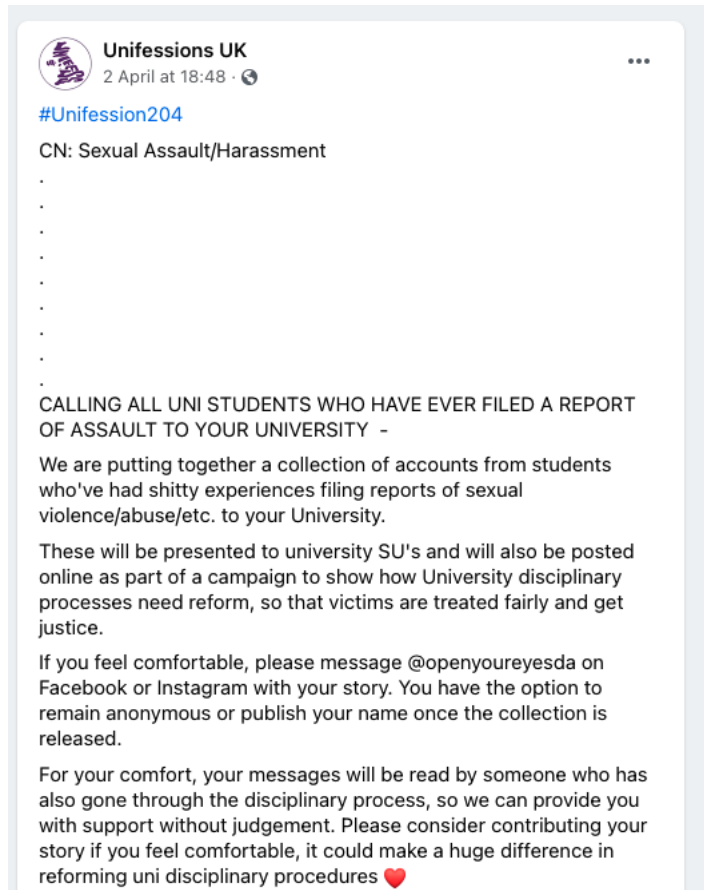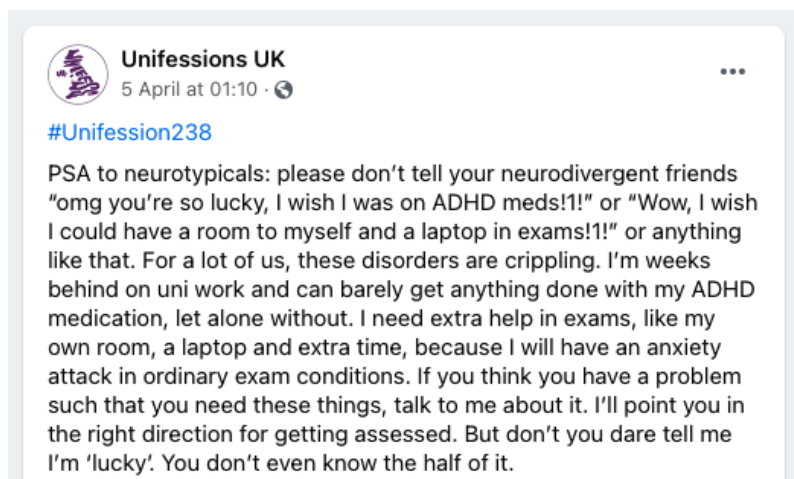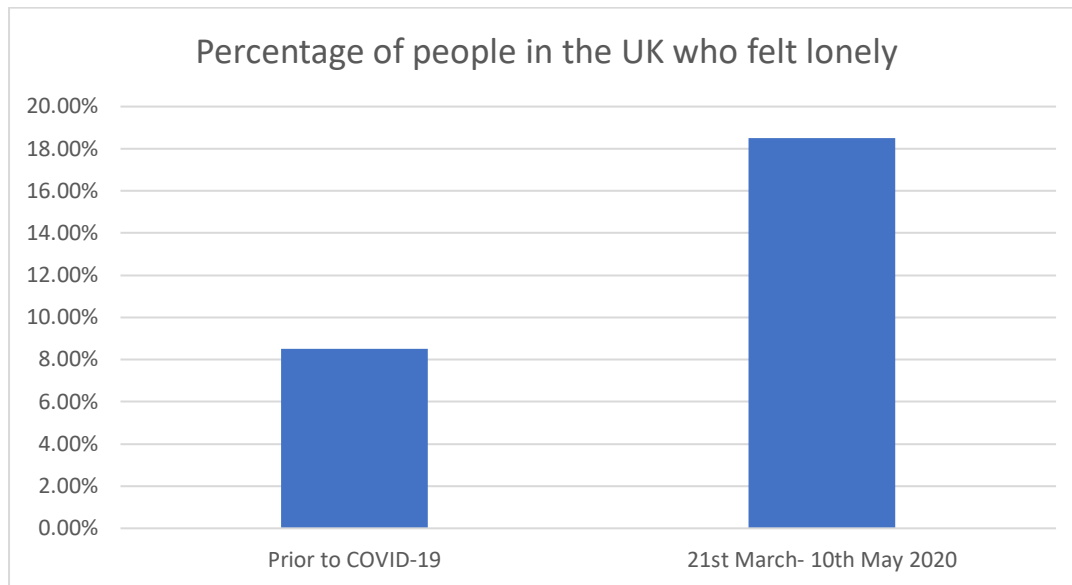
Grievances

Methodology

Data from student surveys and anecdotal evidence from interviews and social media indicate that some students have grievances against the university education that they received in 2019-2020 and 2020-2021. In particular, students have complaints about the communication that they received from university leaders during the pandemic and the 'value for money' of the online education they received. Students have expressed their grievances in a variety of ways. Some students have made use of local and national student surveys, including surveys run by the Office for Students (OfS) and the Student Academic Experience Survey (SAES), to voice concerns and complaints about their educational experiences. Others have shared their views and experiences of education during the pandemic through social media, student and national newspapers, open letters and online forums and blogs. Some students have utilised appeals processes and compensation schemes run by universities and the Office of the Independent Adjudication (OIA) to seek formal resolutions to their grievances. This paper will look at a range of complaints made by students and will paint a broad picture of where students feel that they were let down by university decision-makers during the pandemic. This paper will consider the scale and nature of students' grievances against the online education they received during the pandemic and will identify ways for university leaders, educators and the OIA to work with former, current and future students to redress these grievances.

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Impacts of COVID19 Pandemic

3.1 Communication

Background

The transition to online education during the pandemic prompted changes in how university staff communicated with students. Prior to the pandemic, university staff communicated with students through multiple channels, including in-person meetings, posting notices in study-spaces and libraries, conveying information in lectures or Q&A sessions and sending emails. However, during the pandemic, university staff largely ceased meeting with students in-person and transitioned to communicating via telephone, email, Zoom and Skype calls, instant messaging services, and social media. This change dissatisfied some students, who reported feeling frustrated by the communication that they received from educators and policymakers. A survey of 2,806 UK university students taken in June 2020 found that only 31% of students felt that they had received 'excellent' communication during the pandemic[146]. Of the 29 universities surveyed, only the University of Exeter (62%) and the University of Aberdeen (54%) had a majority of students who felt that they had received 'excellent' communication during the pandemic (Figure 3.1). The University of Belfast (13%) and the University of Oxford (16%) had the lowest student ratings for 'excellent' communication (Figure 3.1). To redress grievances and improve student perceptions about online education, universities must improve when and how they communicate with students.

Impacts and Recommendations

Student frustration with universities' lack of clear and timely communication arose early on in the pandemic. The University of Cambridge was criticised by Cambridge UCU for the sudden and unclear communication that students and staff received about the university's closure in March 2020[147]. Initially, on 13th March 2020, staff and students were informed that, due to the

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[146]NatWest Student Living Index, (2020) https://personal.natwest.com/personal/life-moments/students-and-graduates/student-living-index.html, [Accessed 15 July 2021]
[147]Batty, D., (2020), "Cambridge colleges criticised for asking students to leave over coronavirus". *The Guardian*, 18th March 2020, https://www.theguardian.com/education/2020/mar/18/cambridge-colleges-criticised-for-asking-students-to-leave-over-coronavirus, [Accessed 15 July 2021]

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spread of COVID19 in the UK, the university would be running at a reduced capacity. However, 5 days later, Stephen Toope, Vice Chancellor, announced that the university would be shutting indefinitely for all staff and students from 20th March and encouraged students to leave their university-owned accommodation[148]. This sudden U-turn left students with little time to make arrangements for travel and accommodation and, gave them no certainty about whether they would be able to return before the end of the academic year. The University of Cambridge's communication with students in the spring did, however, appear to improve. In May 2020, the University of Cambridge became the first British university to announce that it would not be offering in-person lectures for the rest of 2020-2021[149]. The University of Manchester also announced in May that it would not be continuing with in-person teaching in 2020-2021[150]. Although these announcements were met with disappointment by many students, their timing (around 4 weeks before the beginning of the third term) gave students clarity about the year's teaching prospects and afforded them some time to prepare for online teaching and make alternative plans for accommodation.

Many university leaders, however, remained publicly optimistic about the possibility of in-person teaching in autumn 2020. A survey of 92 UK Universities in June 2020 found that 89 believed that they would be able to provide a substantial amount of in-person, campus-based teaching in the autumn[151]. The second national lockdown in November 2020, however, meant that the majority of students at these universities did not receive the in-person learning that educators had optimistically promised. Some students, including those at Cardiff University, Falmouth University, and University of Leicester, were promised "blended learning" (a combination of in-person and online teaching) in autumn 2020. Delivering this "blended learning", however, proved challenging, because of the national lockdowns in November 2020 and January 2021 and the continued restrictions on social gatherings which reduced the amount of in-person group teaching that students could receive. These examples illustrate that

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[148]Ibid.
[149]Heren, K., (2020), 'Cambridge becomes first of UK's universities to move all lectures for next academic year online', *The Standard,* https://www.standard.co.uk/news/uk/cambridge-university-lectures-online-2021-a4445391.html, [Accessed 15 July 2021]

[150]Adams, R., Weale, S., Pidd, H., (2020), 'Covid: three universities halt face-to-face teaching as UK strategy unravels', *The Guardian,* https://www.theguardian.com/education/2020/oct/06/covid-three-universities-halt-face-to-face-teaching-as-uk-strategy-unravels, [Accessed 15 July 2021]
[151]McKie, A., (2020), 'UK universities to provide 'significant' in-person teaching in autumn', The Times Higher Education, https://www.timeshighereducation.com/news/uk-universities-provide-significant-person-teaching-autumn, [Accessed 15 July 2021]

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many UK universities did not meet their expectations for in-person teaching in 2020-2021 and made the mistake of overpromising and underdelivering to students.

At the Higher Education Policy Institute's annual conference on 24 June 2021, Nicola Dandridge acknowledged the frustrations and disappointments that students suffered during the pandemic. Dandridge stated that the increase in student dissatisfaction in 2020-2021 illustrates: "the importance of students being given clear and timely information about what they can expect before they start their courses, so that what they get is what they expect."[152]. This paper agrees with Dandridge that universities should clearly communicate with current and potential students about the circumstances in which some course content could be moved online and avoid hurried, last-minute announcements.

Although recent data about the pandemic and the impact of vaccinations in the UK has given universities cause for optimism about the possibility of large-scale in-person teaching in 2021-2022, the lack of information on university websites and in their prospectuses about the possibility of a return to online-only education indicates that they have not heeded Dandridge's calls for clearer communication with students. To avoid repeating the mistakes made in 2020-2021, universities must, if they have not done so already, prepare contingency plans for a transition back to online teaching if circumstances require it. These plans should be communicated with students so that they can prepare themselves financially, academically and emotionally for the possibility of online teaching in 2021-2022.

Improving the tone and wording of communication sent by university staff to students is also crucial for redressing the grievances and negative perceptions that some students have about online education. In their study of messages sent by 151 universities in the New York City metropolitan area to students during the pandemic, Mohlman & Basch concluded that the majority of correspondence had a positive impact on student perceptions about online education[153]. Correspondence with students that used words associated with institutional credibility, reducing panic, and promoting resilience were particularly beneficial because they

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[152]Bena, L., (2021) 'University Responses to Covid-19', Student Crowd, https://www.studentcrowd.com/article/university-responses-to-covid-19, [Accessed 15 July 2021]
[153]Mohlman, J., Basch, C., (2021), 'The language of university communications during the COVID-19 pandemic', *Journal of American College Health*, 5th January 2021, https://www.tandfonline.com/doi/full/10.1080/07448481.2020.1856116, [Accessed 15 July 2021]

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helped students to: "begin to prepare for change and construct an acceptable new narrative (e.g. successful conversion of classes to online format)"[154]. This analysis indicates that, when conveying information to students about their online education, UK universities should be mindful of their messages' tone and wording. Instead of attempting to present online teaching as only moderately different to in-person teaching, universities should acknowledge in their correspondence with students that online education is significantly different and aim to prepare students for the new challenges that online learning and teaching poses. Encouraging and supporting students to build a new narrative around online education is crucial for preparing them for the new academic, social, and financial challenges that online education brings.

Conclusion

In conclusion, poor communication between universities and their students during the pandemic likely contributed to increased student dissatisfaction with higher education in 2020 and 2021. Although one cannot justly criticise UK policymakers or universities for not anticipating the exact course of the pandemic, it is now evident that, in many students' opinion, university leaders overpromised and underdelivered. Future misalignment between students' expectations and the educational experience universities are capable of providing can be avoided through increased clear and realistic communication from university leaders.

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[154] Ibid.

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Figure 3.1

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3.2 Value for Money

Background and Methodology

Defining what makes higher education good or poor value for money is a highly contentious and complex topic. However, delivering 'good value for money' has become an imperative of the Office for Students (OfS). In their 'value for money strategy 2019 to 2021', the OfS gave a broad definition of 'value for money' which considered the interests of students and taxpayers and the public value of education to "social, cultural and economic goals"[155]. Their definition rightly acknowledges that: "value for money means different things to different students and, may shift over time"[156]. In their research on student perceptions about the value for money of higher education, conducted in 2008, the OfS concluded that: "the quality of teaching, fair assessment and helpful feedback and learning resources are the factors which most demonstrate value for money for students"[157]. Our research indicates that students enrolled at UK universities continued to measure the 'value for money' of their higher education by similar standards in 2020 and 2021.

However, our research also indicates that some students also placed value on the communication they received from university leaders (as explained in the previous section), as well as on the emotional responses from educators. One student responded to our survey that, although they were disappointed with the 'value for money' quality of online teaching, they were satisfied with the "effort" that educators had put into delivering online classes. This response illustrates that, as the OfS suggested, the value for money of higher education, both online and in-person, means different things for different students and will shift over time.

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[155] OfS, (2019), 'Office for Students' value for money strategy 2019 to 2021', p.4, Available at: https://www.officeforstudents.org.uk/media/336c258b-d94c-4f15-af0a-42e1be8f66a1/ofs-vfm-strategy.pdf, [Accessed 2021]

[156] Ibid. p.3
[157] OfS, (2018) 'New research shines spotlight on student perceptions of value for money', Available at: https://www.officeforstudents.org.uk/media/7ebb7703-9a6b-414c-a798-75816fc4ef33/value-for-money-the-student-perspective-final-final-final.pdf [Accessed August 2021]

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This paper will not present a rigid definition of what makes education good or poor 'value for money' nor will it discuss in detail the complex economic and political factors, including Government loans, public funding and privatisation, that influence how much certain students pay for their university education. Unlike the OfS's study, this paper will not explore the 'value for money' of education for UK taxpayers nor the social, cultural or economic value for the nation. Instead, it will focus on the subjective perceptions that students have about the value for money of their online education in 2020 and 2021 and will explore their experiences of various financial compensation schemes.

Impacts and Recommendations

Student surveys suggest that the online education provided by UK universities in 2020 and 2021 was not perceived by many students as 'good value for money'. The Student Academic Experience Survey (SAES) found that, as a result of the transition to online teaching and learning in 2020 and 2021, student satisfaction with the value for money of their courses significantly decreased (Figure 3.2)[158]. Prior to the disruption caused to higher education by the pandemic, student satisfaction with the value for money of their education was relatively high. In 2019, 41% of students thought that their university course was 'good' or 'very good' value for money and only 29% of students thought that their courses offered 'poor' value for money. However, in 2021, only 27% of students thought that their course was 'good' or 'very good' value for money and 44% thought that their course offered 'poor' value for money (Figure 3.2)[159]. The OfS attributed this decrease in student satisfaction to the loss of in-person teaching during the pandemic[160].

Students in 2021 perceived online teaching as less financially valuable than in-person teaching and did not think that the online education they received was worth the same tuition fees as in-person education. Quotes from students, recorded in the 2021 SAES, capture the perception that many students have of online education as less financially valuable than in-person teaching. One student in the survey wrote that: "Online learning is extremely different to in-person

[158]Neves, J., Hewitt, R., (2021), Student Academic Experience Survey, *HEPI*, Available at: https://www.hepi.ac.uk/wp-content/uploads/2021/06/SAES_2021_FINAL.pdf , [Accessed August 2021]
[159]Ibid.
[160]Parr, C. (2021) 'Student satisfaction plummets in pandemic year', in *Research Professional News*. Available at: https://www.researchprofessionalnews.com/rr-he-student-trends-2021-6-student-satisfaction-plummets-in-pandemic-year/ (Accessed: 4th July 2021)

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learning. Uni [*sic*] was great up until the pandemic hit, although I do still believe the fees were overpriced regardless"[161], and another similarly claimed: "The course is great…but considering its all online, I think £9,250 is too much"[162]. Another wrote that they did not feel that they were getting good value for money since they were working as a student nurse during the pandemic: "Working for free as a student nurse while also paying to go to uni, I am essentially paying to work"[163]. This evidence illustrates that online university education is not currently perceived by many students as having the same value as in-person education. Improving students' perceptions about the financial value of online education will be crucial for the future of online education at UK universities.

The results from our online survey of 88 students from a variety of UK universities[164] support the findings of the SAES. Our survey, which ran between 2nd April and 10th April 2021 and was advertised through social media and word-of-mouth, asked students to respond to multiple-choice questions about their financial experiences during the 2019-2020 and 2020-2021 academic years[165]. Respondents replied to questions using a scale of 1-3 or 1-5, with 1 being 'no, not at all' and 3 or 5 being 'yes, definitely'. An 'other comments' section was also available on the survey, which one respondent made good use of. The responses we received from the survey painted a broad picture of students' perceptions about the financial value of education in 2020 and 2021, and highlighted areas where some students had seen increased spending as a result of the transition to online education.

In this survey, 25.3% of students stated that they felt 'very dissatisfied' with the value of their education in 2020-2021 and 41.4% felt 'moderately dissatisfied'. Only 8% of students stated that they were 'moderately satisfied' with the value of their education and no students reported feeling 'extremely satisfied'. This evidence supports the conclusions of the SAES and OfS, which suggest that student satisfaction with the value of education was significantly negatively impacted by the loss of in-person learning during the pandemic. However, the limitations of this survey were that it sampled a relatively small number of students, only measured students'

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[161] Ibid. Neves and Hewitt, Student Academic Experience Survey
[162] Ibid.
[163] Ibid.
[164] Respondents attended UK universities, including: Exeter University, Reading University, Cambridge University, Leeds University, Nottingham University, Oxford Brookes University, Bristol University, Oxford School of Drama, University College London, the University of Birmingham, Oxford University, Swansea University, Central St Martins, Bath Spa, University of London, Manchester University.
[165] See Appendix for the questionnaire and full data from the survey (Figure B).

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responses at one point in time and only enabled students to respond via a pre-determined set of answers.

One could draw from the results of the SAES that reducing the cost of online university tuition may have a positive short-term impact on current and former student perceptions about the 'value for money' of online education. The SAES found that most students (44%) were 'thinking about' the cost of their tuition fees when they reported that their education in 2021 was 'poor value for money' (Figure 3.4)[166]. In 2021, domestics students (those domiciled in certain areas of the UK) who paid higher tuition fees were less satisfied with the value for money of their university education. Domestic students at universities in England, who pay the highest tuition fees of all domestic students in the UK at £9,250 per year, were the least satisfied with the value for money of their courses, with only 24% stating that they received 'good' or 'very good' value for money for their education. In Northern Ireland, Wales and Scotland, where tuition fees are lower than those in England, domestic student satisfaction with the value for money of online education was higher. In Northern Ireland, where fees are £4,530 per year for domestic students, 27% of students felt that their education was 'good' or 'very good' value for money. In Wales, where tuition fees are £9,000 per year for domestic students, 29% of students said they had 'good' or 'very good' value for money. In Scotland, where around 60% of students do not pay any tuition fees because they are domiciled in Scotland, 50% of students felt that they had 'good' or 'very good' value for money (Figure 3.5). Interestingly, international students from outside the EU who pay a significantly higher amount for their tuition at UK universities reported feeling more satisfied with the value for money of their online education in 2020-2021 than domestic students in England, Northern Ireland and Wales, with 33% of international students stating that they felt that they had 'good' or 'very good' value for money (Figure 3.5). This evidence suggests that refunding some of the cost of tuition fees for domestic UK students affected by the pandemic could have a positive impact on student satisfaction with the value for money of their online education.

Increased spending on new technology for online learning in 2020 and 2021 also likely contributed to some students' perception of their online education as poor value for money. In our survey of 88 UK students, over half (55.2%) stated that they had bought new technology to

[166]Neves, J., Hewitt, R., (2021), Student Academic Experience Survey, *HEPI*, Available at:
https://www.hepi.ac.uk/wp-content/uploads/2021/06/SAES_2021_FINAL.pdf , [Accessed August 2021]

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complete their online courses during the pandemic (Figure 3.7). Additional spending on faster broadband for streaming online lectures and videos and, new software and hardware required for research and essay-writing, have financially impacted students who, before the pandemic, would have used university-owned technology to complete their studies. A number of UK universities have recognised the additional costs associated with online learning and have offered loans, subsidies and grants to students struggling to buy new technology[167]. Although these schemes are helpful for students with very limited financial resources, their limited scope makes them unable to effectively compensate every student for the financial cost of online learning. Emma Hardy, former Shadow Universities Minister, similarly stated that funding for buying new technology for online education is too often "limited, bureaucratic and very difficult to get paid out"[168]. If universities in the UK continue to integrate online education into their courses, they should be upfront and realistic about the additional costs that students may incur as a result of online education. They should also consider increasing the amount and range of financial support that they offer to students to support online education. Reducing the complexity of schemes and making pay-outs more efficient would also financially benefit lower and middle-income students enrolled in online or 'blended' learning courses.

Students who feel that their education was been negatively impacted by the pandemic can currently seek refunds for their tuition fees through their university or the Office of the Independent Adjudication's scheme. In 2020, the Office of the Independent Adjudication (OIA) received 2,604 complaints about university education of which 500 related to the impact of the pandemic. The OIA has awarded some students a rebate for portions of their tuition fees. An international medical student at an undisclosed university who paid £38,000 per year for their course was awarded £5,000 because they missed out on clinical placements during the pandemic[169]. A postgraduate healthcare student who was domiciled in the UK was awarded £1,500 for the "inconvenience and significant disappointment" they faced due to the cancellation of a lab-based research project[170]. These outcomes illustrate that during the pandemic some students, by the OIA's standards, received an educational experience that was

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[167] See Appendix (Figure C) for examples of schemes offered in 2020 and 2021.
[168] Hall, R., and Batty. D. (2020) '"I can't get motivated": the students struggling with online learning' in *The Guardian*. Available at: https://www.theguardian.com/education/2020/may/04/i-cant-get-motivated-the-students-struggling-with-online-learning (Accessed: 24th May 2021)
[169] BBC News (2014) *'University to pay out 5k for 'less valuable experience'*. Available at: 'https://www.bbc.co.uk/news/education-56245074 (Accessed: 2nd March 2021).
[170] Ibid.

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not deemed good value for money. They also illustrate that some students are justified in feeling that have they paid too much for the online education they received during the pandemic and should be entitled to a rebate for portions of their tuition fees.

However, the complexity, inefficiency and length of these compensation schemes has frustrated applicants and deterred some students from making claims. The OIA will typically only accept a complaint once a student has already raised their concerns with their university and gone through the university's compensation scheme. Only under "exceptional circumstances" does the OIA state that it will accept a claim before an education provider has processed the claim fully[171]. Compensation schemes run by universities are frequently time-consuming, complicated, laborious and take months to complete. As a result, students may rarely take their concerns to the OIA, either because they feel disheartened by the complexity and inefficiency of their university's scheme or because they feel that too much time has passed since the issue first arose. The OIA's compensation scheme can be made more accessible to students by allowing them to appeal to the OIA either before or during their appeal to their university. By making this change to OIA policy, more students will likely have the opportunity to have their complaints heard by the OIA.

The OIA currently allows for Large Group Complaints where students can make a formal complaint as a group and have their claim resolved more efficiently. This means that, potentially, students on the same course at the same university who were all impacted by the same circumstances would not have to individually contend with the long and inefficient complaint process. This system is beneficial as it avoids only compensating students who have the financial resources, the time and the emotional support to go through the long, complicated and inefficient process of making an appeal. To restore student confidence in compensation schemes and make them more accessible and transparent, current students should be automatically informed about all ongoing and recently resolved Large Group Complaints that have been made by students at their university, at their faculty or on their course. Relaying information to students about all ongoing and recent Large Group Complaints will make the appeal process more transparent and may enable students to more easily recognise instances where they may be entitled to compensation.

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[171]OIA website, 'Can you complain to us?', Available at: https://www.oiahe.org.uk/students/can-you-complain-to-us/, [Accessed August 2021]

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Our survey also found that nearly 75% of students did not know how to submit a formal complaint or appeal to their university or the OIA (Figure 3.7). To increase students' confidence in compensations schemes, students should be informed about how they can make a complaint and seek compensation. Universities should be encouraged to give students up-to-date information at the beginning of every academic year, provided via email, online notification or printed leaflets, informing them about available compensation schemes and the application process. Students who have gone through these compensation schemes can contribute to raising awareness about them by writing about their experiences on online student forums and in student newspapers. If they have been successful in their claim, they should alert peers whom they think have similar complaints and may also be entitled to compensation.

Conclusion

In conclusion, poor student perceptions about the value for money of online education poses a significant challenge to the future of online education in the UK higher education sector. A significant proportion of UK students do not feel that the online education they received during the pandemic was good value for money and feel dissatisfied with the lack of in-person teaching. Additional spending on new technology for online learning and frustration with the length, complexity and inefficiency of compensation schemes have likely also negatively impacted student perceptions about the value for money of online education. To redress these grievances, universities should provide greater information to current and perspective students about the additional costs they may incur as a result of online education and expand access to funds, grants and loans for new technology. The compensation schemes run by universities and the OIA should also be streamlined and made more transparent to ensure that they promote confidence in the value for money of online education.

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Value-for-money of your present course
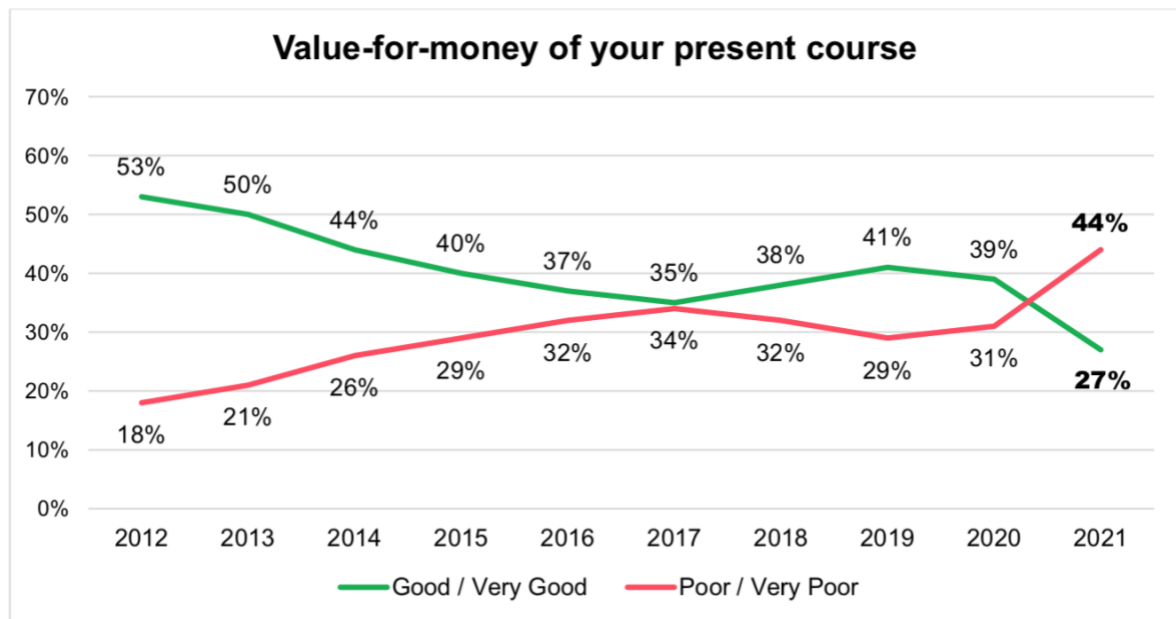
Figure 3.2

During the current academic year fewer students have felt their degree offers good value for money
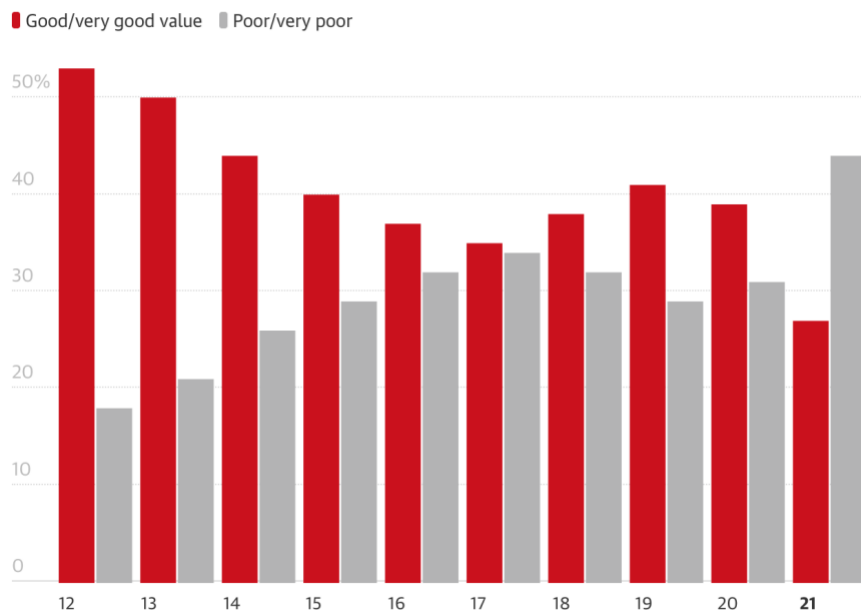
Guardian graphic | Source: Student academic experience survey

Figure 3.3

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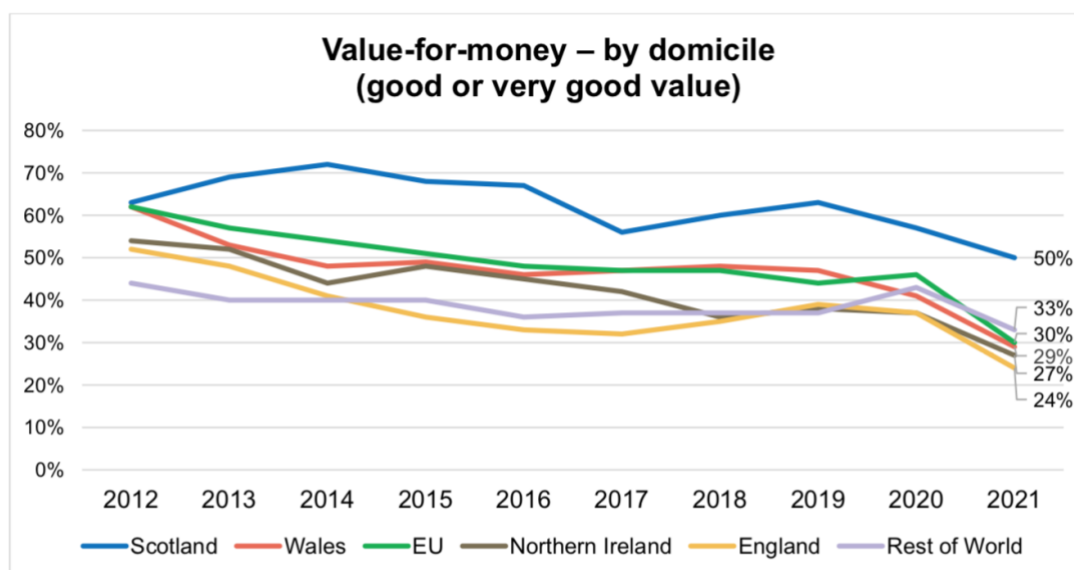
Figure 3.4

	Scotland	Wales	EU	NI	England	Rest of World
2019	63%	47%	44%	38%	39%	37%
2020	57%	41%	46%	37%	37%	43%
2021	50%	29%	30%	27%	24%	33%

Figure 3.5

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Student spending on technology during the pandemic

Figure 3.6

7. Do you know how to make a complaint or an appeal for when you are not satisfied with your university experience?

88 responses

Figure. 3.7

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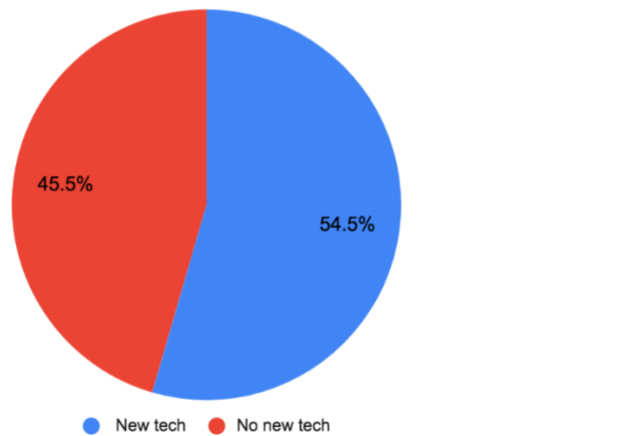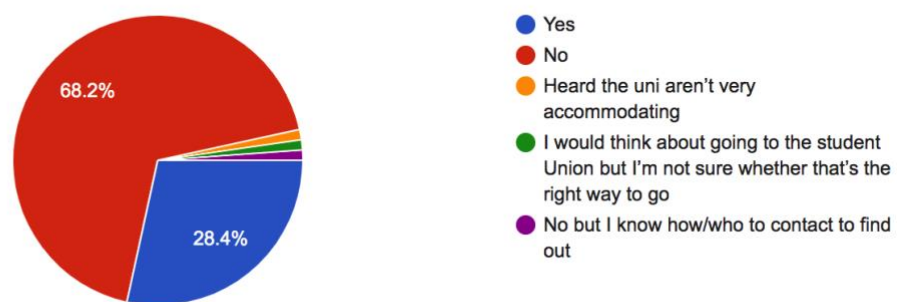Writers: Phoebe Campbell, Eugenie Kwan, Tara Cavan, Natasha Huang & Rosanna Mutsaars

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Recommendations

This paper has found that there are some significant challenges currently facing online education in the UK higher education sector. To improve university students' perceptions about the 'effectiveness' and 'value' of online education and improve experiences of online learning, university leaders and educators must modify how they deliver online classes, communicate with students and deploy funding for online resources and new technologies. Former and current students can also contribute to improving online university education through fresh and modified engagement with university leaders, educators and their peers.

Academic Effectiveness

1.1 Online Lectures, Seminars and Classes

1. Educators should not underestimate the value of fieldtrips, practical work and laboratory or clinical work to students' academic experience. These experience-based forms of education should be considered as valuable to students' learning as other forms of education, such as lectures, classes or seminars.

2. Educators should utilise online tools including slideshows, online note-taking tools, 'online whiteboards' and 'screen sharing' features during online lectures, as students find these effective for having new information disseminated and taught to them.

3. Promote active learning – for example, through having students present to their peers, holding interactive quizzes, having Q&A sessions, having an online 'chat room' or sending small groups of students into 'break-out rooms' – as that can encourage student participation in online class discussions. Efforts should also be made to increase assess to strong, stable internet connections to ensure that students are not prevented or deterred from participating in class discussions by 'lagging' or 'buffering'.

4. Continue investment in high-quality sound and video recording equipment as that is required to provide students with recorded videos to support their revision.

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<u>1.2 Study-spaces</u>

1. Expand access to suitable study-spaces as that is essential to ensure all students can make the most of their online education. This has been achieved by some universities in the UK and abroad through partnerships with companies, like WeWork. Universities can expand access to study-spaces without building or acquiring new properties by forming reciprocal agreements with other institutions.

2. Students can contribute to increasing access to study-spaces conducive for asynchronous learning by sharing their experiences of working in communal study-spaces with educators and highlighting areas where universities and private companies should improve their offering for students.

<u>1.3 Digital Libraries</u>

1. Universities should continue to encourage researchers to pursue open access publication, extending negotiations with publishers and make new plans to increase access to high-quality, low-cost online research and data for students. Educators should also increase instruction for students on how to find and use open access publications.

2. Students can contribute to the use and availability of open access publications by asking educators to make their work publicly available, by sharing and promoting links to high-quality open access journals, and altering library and academic staff when they find themselves without access to free research and data.

3. Digital libraries should be made more use-friendly by streamlining and simplifying the process for accessing online materials. Active reading should also be promoted by adding features that allow students to annotate, draw and make notes on e-books and online journals.

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1.4 Online Assessments

1. Accept that although the implementation of the 'Essay Mills (Prohibition) Bill 2019-21' convey to students the severity of cheating in assessments, it is unclear whether this legislation effectively prevent students from using external services to cheat.

2. Educators should prioritise building relationships with students through frequent one-to-one communication to disincentivise cheating in online assessments.

3. Provided students who are struggling with their studies with additional academic and language support, redirecting the temptations to cheat in online assessments.

Social Effectiveness

2.1 Friendships and Mental Health

1. Universities and student-run groups should use online communication in addition to in-person meetings to increase inclusivity for students.

2. Award student-run social groups with increased funding to run events that foster a sense of community between new and current students.

3. Increase university funding for mental health services and increase integration with NHS mental health and counselling services to address the mental health crisis.

Grievances

3.1 Communication

1. Ensure university leaders and educators make realistic promises to students about the methods of teaching that they can expect to receive.

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2. Prepare and communicate with students contingency plans for the suspension of in-person teaching and a result to online education if circumstances require it.

3. Ensure that university leaders announce changes to teaching methods in a timely manner to allow students to make adequate preparations.

3.2 Value for Money

1. Universities should increase accessibility to loans, subsidies and grants offered to students for buying new technology for online education.

2. The OIA should make it standard practice for students to be able to make an appeal to them before they have completed an appeal with their university.

3. Universities and the OIA should implement measures that ensure that students are informed when a Large Group Complaint is made at their institution and alert them when one of their peers has made a successful appeal.

4. Students can contribute to improving the transparency of compensation schemes by sharing their experiences online and in student publications. They should also contact peers whom they think may also be entitled to compensation.

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Appendix

Figure A

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Financial impact of COVID-19 on students

Use 'other' if you would like to add additional comments.

1. Please state your degree, your university, and your year of study.

Long-answer text

2. (ONLY ANSWER IF: you are living in university-owned accommodation.) Has it been difficult to get money back for when you were not in residence due to the pandemic?

○ 1 - no not at all

○ 2 - as expected

○ 3 - yes, difficult

○ I haven't tried

○ Other…

3. (ONLY ANSWER IF: you are living in private accommodation). Has it been difficult to get money back for when you were not in residence due to the pandemic?

○ 1 - no not at all

○ 2 - as expected

○ 3 - yes, difficult

○ I haven't tried

○ Other…

4. Have you spent any extra money on technology during online uni?

○ Yes

○ No

○ Other…

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5. Do you think you are getting value for money with online education?

◯ 1 - no not at all

◯ 2

◯ 3

◯ 4

◯ 5 - yes definitely

◯ Other…

6. (ONLY ANSWER IF: you are an international student) Do you feel you have been well accommodated during the pandemic?

◯ 1 - no not at all

◯ 2

◯ 3

◯ 4

◯ 5 - yes definitely

◯ Other…

7. Do you know how to make a complaint or an appeal for when you are not satisfied with your university experience?

◯ Yes

◯ No

◯ Other…

8. Do you feel you have a voice at university? Do you feel part of a community?

◯ 1 - no not at all

◯ 2

◯ 3

◯ 4

◯ 5 - yes definitely

◯ Other…

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9. Are you nervous about the amount of debt you will have once you have finished university? Or do you not really think about it?

○ 1 - no not at all

○ 2

○ 3

○ 4

○ 5 - yes, very worried

10. If you had your time again, would you do an online university course if they were valued as equivalent to an in-person degree, and your debt was halved?

○ No definitely not

○ I would consider it

○ Yes definitely

○ Other...

11. Would you like to see a blended approach of online and in-person teaching at university post-pandemic?

○ No definitely not

○ Maybe

○ Yes definitely

○ Other...

• • •

Any additional comments are very welcome

Long-answer text

Figure B

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Institution	Financial Support Offered
University of Exeter	Success for All Fund Means-tested grants available to all undergraduate and postgraduate students.
London School of Economics	Digital Support Fund Awards of up to £500 per student to contribute towards buying new technology for online learning
University of Manchester	Living Cost Support Fund Provides financial support for students struggling with living costs. Short term Loans Loans of up to £100 are available from Students' Union.
University of Plymouth	COVID Hardship Grant 2021 Grants up to the value of £700 Finance support revolving around accommodation, technology, and employment
Imperial College London	Laptop Support Fund Students can apply for a grant of up to £500 to buy a new laptop.
University of Newcastle	Wifi Grant

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	All students can apply for a grant of up to £200 to buy short-term internet access
University of Southampton	Online Learning Grant Launched in April 2020, granting students up to £300 for purchasing and repairing technology for online learning
University of Cambridge, Gonville and Caius College	Academic Grant Fund' Up to £150 for students to support their online education in the pandemic
University of Sheffield	Student Covid-19 Support fund Cover increased utility bills due to working from home. However, this does not cover newly purchased laptops/desktops/tablets.
Manchester Metropolitan University	Student Hardship Fund A new laptop where it is an absolute necessity Given to 665 students
University of Bristol	Coronavirus Impact Fund – IT support Any student can apply Contributions towards new laptops & internet connectivity
University of Nottingham	Covid-19 Crisis Fund One of IT equipment. Non-repayable grants of up to £1,500

Figure C