AN EVALUATION OF STUDENTS' EXPERIENCES OF USING VIRTUAL STUDY SPACES
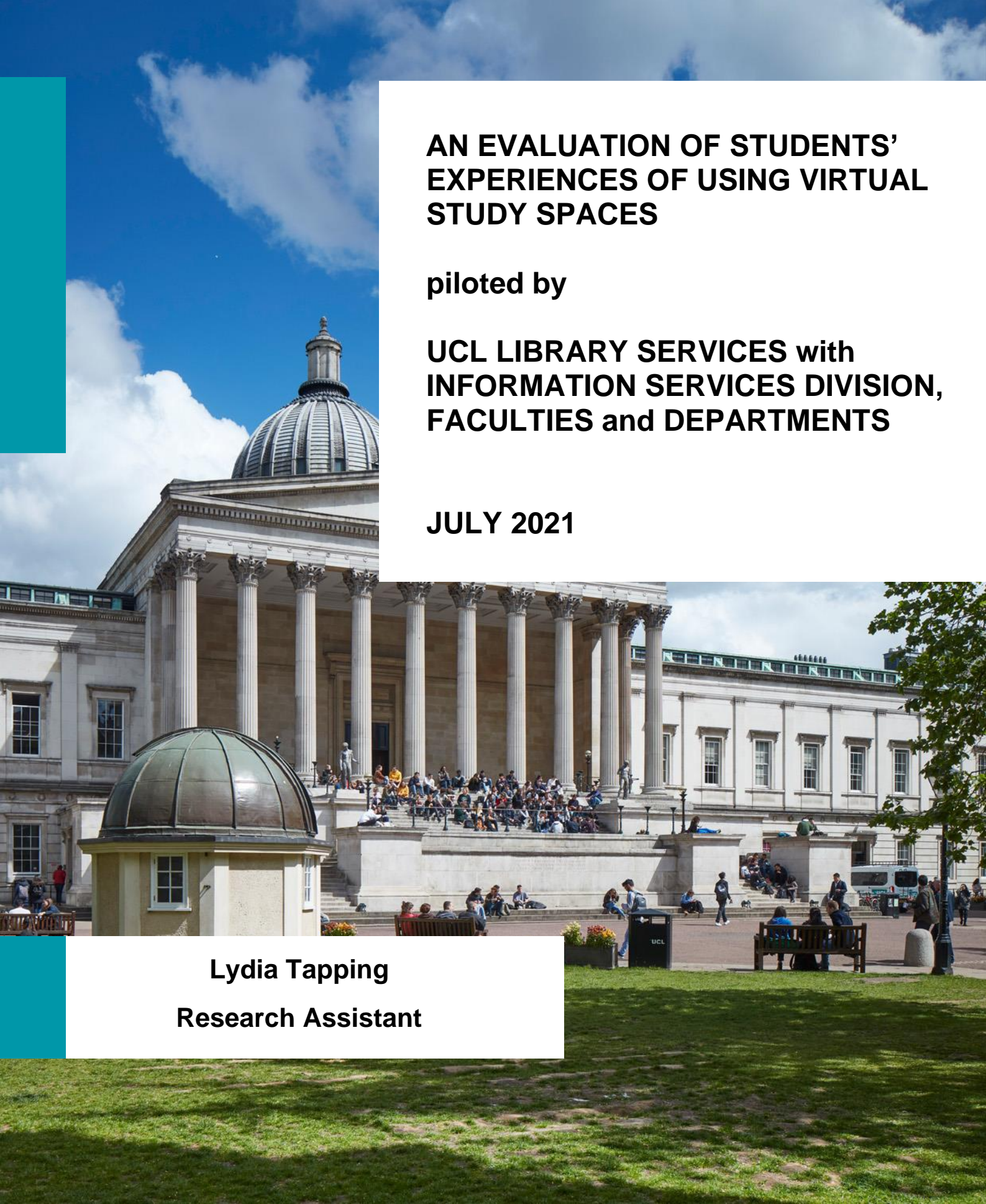
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UCL LIBRARY SERVICES with INFORMATION SERVICES DIVISION, FACULTIES and DEPARTMENTS

JULY 2021

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”….thanks a lot for this new trial. Really great opportunity [in] these times”

“I personally can't study without having other people around, so I find it very helpful. It would be nice if everyone else turned on their camera though. That would better suit people like me who want to see others working.”

- Informal student feedback to the Student Centre manager -

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0. Executive Summary

This report was commissioned to evaluate the effectiveness of the virtual spaces piloted across UCL by central Library Services, faculties and departments, after the closure of campus in 2020. A Research Assistant was engaged on a two-month assignment to evaluate students' experiences of using the virtual spaces. These included virtual common rooms and revision workshops and the Virtual Learning Spaces for Students ("Zoom rooms"). The latter were piloted during May and June by Library Services, with Information Services Division (ISD), the departments which sponsored the research with the support of Interaction Design – Department of Computer Science. Tools in scope included Zoom, MS Teams, Gather.Town and VirBELA virtual campus.

0.1 Methodology

To capture student feedback on their experience of using virtual learning spaces across UCL, we ran:

- **Virtual Learning Spaces for Students Survey**: **68** students took part.
- **Focus Groups**: seven one-hour focus group in which **26** students took part.
- **Information Gathering session**s: with Faculty and Department leads the Faculty Learning Technologists / Digital Educationalists who support them.

0.2   Findings

Before campus closed students had generally studied at the library or Student Centre with friends to motivate themselves to get started and remove distractions. Most students had little experience of virtual learning or study although some did have informal study groups in place or had tried online, open access study rooms aimed at school and university students found on the internet that feature music or timed study. Students said they has been "*really surprised by the idea of VLS at first*" but that using them provided with "*a sense of belonging that we are studying in the University*".

Motivations for using the virtual study rooms or spaces

"Social pressure" to study was a phrase that recurred regularly in Focus Groups as reasons that students had used the virtual spaces saying. Other motivations included:

i.   **resisting procrastination**: seeing other people studying helped motivation;

ii.   **"peer-pressure"**: online spaces provided students with study peer pressure;

iii. **social connection**: some students used the spaces to for social interaction

iv. **collaboration**: online scheduling, saving team chat and file- and screen-share was more effective than crowding around a computer.

Downsides of virtual study and learning

Some students found that the virtual common rooms or online study session did *not* help them study because they were still in the same physical space. Other downsides listed, included:

i. **lack of engagement / interactivity**: students said they expected that others in the virtual spaces would interact with each other more;

ii. **lack of visibility**: participants in the rooms would, or could not, put their cameras on – often due to broadband or internet connectivity difficulties;

iii. **not enough of a crowd**: there weren't enough people in the rooms;

iv. **timing and publicity**: 20% of students did not know about the spaces;

v. **online exhaustion**: some students also commented on Zoom exhaustion;

vi. **too many platforms**.

Virtual etiquette

Students agreed that some form of virtual "code of etiquette" to encourage participation, visibility and interaction in spaces would be a "*brilliant idea*".

Virtual Learning Spaces for Students (Zoom rooms) pilot

The Virtual Learning Spaces (VLS) for Students (Zoom rooms) were divided into Silent and Social spaces and students said they appreciated the division which "*mimicked real-life fun versus serious study sessions*". 15% who took the survey said that VLS had helped them feel more connected to UCL; 16% that it made them feel as though they were in the on-campus library; and 11% that it helped them study and meet new friends. 65% responding to the Survey said that they liked the Library Assistant(s) being in the spaces.

Why students did *not* use the Virtual Learning Spaces for Students

Compared to expectations, students said that they, **"***definitely thought it would be more interactive – cameras on and the backdrop would have been nice as well" and that as **"***no-one had their camera on*". Other reasons that students did not use the VLS included:

- slow or **unstable broadband or internet** connections;
- the virtual space was **closed during the hours they wanted to use it**;
- students said the spaces had been **set up too late in the year**

Academic literature reviewed emphasises the importance of linking the virtual learning spaces to their **purpose**. For example, students said a Library Assistant in the rooms "*would add to the **feeling** of it being like a library.*"

Other features

Students were asked in the Survey what features they might like to see in the Virtual Learning Spaces. Predominantly they said that "***the faces, the camera and the interaction***". But of a choice of possible other features, students listed **profile pictures and avatars**; a **pomodoro timer**; **24-hour access**; **forum or chat section** or **3D rooms**; **livestream**; and **music** or some sort of **auditory reminder** e.g. rainfall soundscapes

0.3 Conclusion and Recommendations

Most students surveyed saw a benefit to having the virtual learning and study spaces available as a permanent feature in *complement* to the library and Student Centre as part of a blended on-campus and virtual, They thought they would make use of them in particular circumstances, including out-of-hours; during exam season when on-campus library space is at a premium; to save commuting time; as alternative spaces for group work that enable file-sharing and as a "add on" for example to enable visiting non-UK lecturers or "*if it was raining*".

To enable this, we recommend:

i. **encouraging uptake and participation: by** encouraging the use of cameras or enabling profile pictures or 3D avatars
ii. **developing virtual "etiquette" code**
iii. **encouraging good study habits and self-care**
iv. **promoting synchronistic and informal encounters**: perhaps by providing a "skin" or "wrapper" around the Virtual Learning Spaces could be employed
v. **feedback loops**: connecting to students to encourages them to return
vi. **promoting the spaces**: through better advertising

Limitations of the report

The commissioning of this report place within a short window with one Research Assistant. The call to participate in the Survey and Focus Groups went out after students had finished the academic year, during the summer. This is reflected in the relatively low uptake of those who answered the survey (68 students) and small numbers (between one and six) students in the Focus Groups. Those that did contribute, however, were highly enthusiastic and provided honest and very helpful feedback.

1. Introduction

This study was commissioned as, in the wake of the coronavirus outbreak in early 2020 national lockdowns forced the closure of university campuses and businesses for much of the year. To adapt to this, while continuing to offer high quality access and services to students, central Library Services along with several UCL faculties and departments, piloted the use of virtual learning (study) spaces, virtual common rooms, or virtual revision workshops. Although lectures could be delivered online or in pre-recorded format, the less formal, serendipitous outside learning and interaction that normally takes place on campus between lecturer and student and between students was missing, something that is supported by studies on virtual learning and study spaces.

> "Today... libraries are more likely to resemble a thriving hub of community activities, attracting people of all demographics, than quiet reading rooms and bookshelves."[1]
>
> Pamela Tullough, Chief executive at the Scottish Library and Information Council

Modern library and study spaces are often quieter and better equipped than the facilities which students have access to at home, providing opportunities for socialising and studying with peers, or simply a place that is not where they sleep and relax. It was this interactivity, need for connection and peer-motivated collaboration that the virtual learning pilots and Library Services' Virtual Study Spaces for Students piloted at UCL were seeking to recreate. This was particularly the case for students who have never yet been to campus – first year undergraduates and one-year taught postgraduates who had not met either their teachers or other students in person; and post-graduate doctoral research students who said that they already suffer from isolation, which was heightened by being off campus. These experiences are reflected in the findings of a survey conducted by Research Libraries UK (RLUK), a consortium of libraries that has previously experimented with the provision of geographically remote digital access to heritage and cultural collections through the creation of Virtual Reading Rooms (VRRs) and Virtual Teaching Spaces (VTSs).[2]

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[1] Libraries are at the forefront of combatting loneliness and inequality, Pamela Tullough, *The Big Issue, 19 June 2021*

[2] Libraries, archives and museums enable new forms of remote access in response to Covid-19 pandemic , *Research Libraries UK (rluk.ac.uk)*, 2021

To evaluate the effectiveness of the virtual spaces that have been piloted at the University during campus closure, a cross-departmental team – Ben Meunier, Director of Operations, Library Services, David Goddard, Head of IT Service Partnerships (Information Services Division (ISD)) and Yvonne Rogers, Professor of Interaction Design, Department of Computer Science – engaged a Research Assistant to conduct a review of student experiences. Specifically, the remit of the study was to focus on identifying students' preferences for individual and collaborative working in a digital environment when access to physical libraries on campus is limited – reviewing the pros and cons of different platforms and surveying students on their experiences.

Tools in scope included MS Teams and Zoom – technologies supported by UCL Central Services – and Gather.Town used by the Department of Experimental Psychology for first year undergraduates. Also reviewed was VirBELA, a software piece developed on gaming technology which was piloted by the School of Political Sciences, through provision of a grant, specifically as a teaching space for role play and negotiation within an International Relations and Conflict Resolution course.

This assignment built on a previous project completed in early 2021 to survey online collaboration tools used at UCL by academics and staff. [3]

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[3] Researching remote collaboration and connectivity tools among UCL-wide groups, Shaleila Louis & Roos van Greevenbroek, *SPiDER: Sustainable and Digital Places for Education*, 2021

2. Background to the research study

JISC (formerly the Joint Information Systems Committee) has found that lockdowns have created a new market which aims to meet the needs of the huge numbers of students who have been forced to study at home rather than where they might usually choose to, such as libraries, computer rooms, and other co-working spaces. "As a result of traditional library or study spaces being unavailable, students are looking for the next best thing, and products have emerged which seek to create virtual versions of these physical study spaces."

However, use of these platforms and tools is an emerging and immature market. In a presentation to Sustainable Physical and Digital Places for Education and Research (SPiDER) earlier this year, Director of Library Operations, Ben Meunier, noted that while studying remotely makes it difficult for students to build meaningful, personal connections and intimacy, virtual platforms that might help facilitate these interactions had never been successfully implemented prior to this year. A number of virtual common rooms had been launched across UCL campus which were initially successful, but after the first few weeks, usage tailed off. Amongst other considerations, users of such spaces have valid concerns around cyber security, surveillance, and data handling and retention. There is also obvious potential for misuse of these platforms by bad actors, and it is not clear to what extent these virtual spaces are moderated, nor how effective that moderation is.

3. Methodology

To capture student feedback on their experience of using virtual learning spaces across UCL, we conducted:

Virtual Learning Spaces for Students Survey
A online Survey, created in MS Forms, ran for four weeks between June and July 2021, the aim of which was to gauge students' experiences both of collaborative learning (common rooms) or revision groups spaces in various departments and, specifically, the "Virtual Learning Spaces for Students" (using "Zoom rooms") which UCL Library Services and ISD piloted during May and June 2021 The spaces offered moderated Social and Study, including Silent Study, spaces.

The first 100 students to complete the Survey were offered a £10 online reward voucher.

How students found out about the survey

Did not answer	1%
Advert	7%
Friends	19%
Inkpath website	2%
UCL website	2%
Faculty/ department communication	21%
Twitter	1%
Unknown	1%
UCL Communications e.g. myUCL	46%

Legend:
- Advert
- Friends
- Inkpath website
- UCL website
- Faculty/ department communication
- Twitter
- Unknown
- UCL Communications e.g. myUCL
- Did not answer
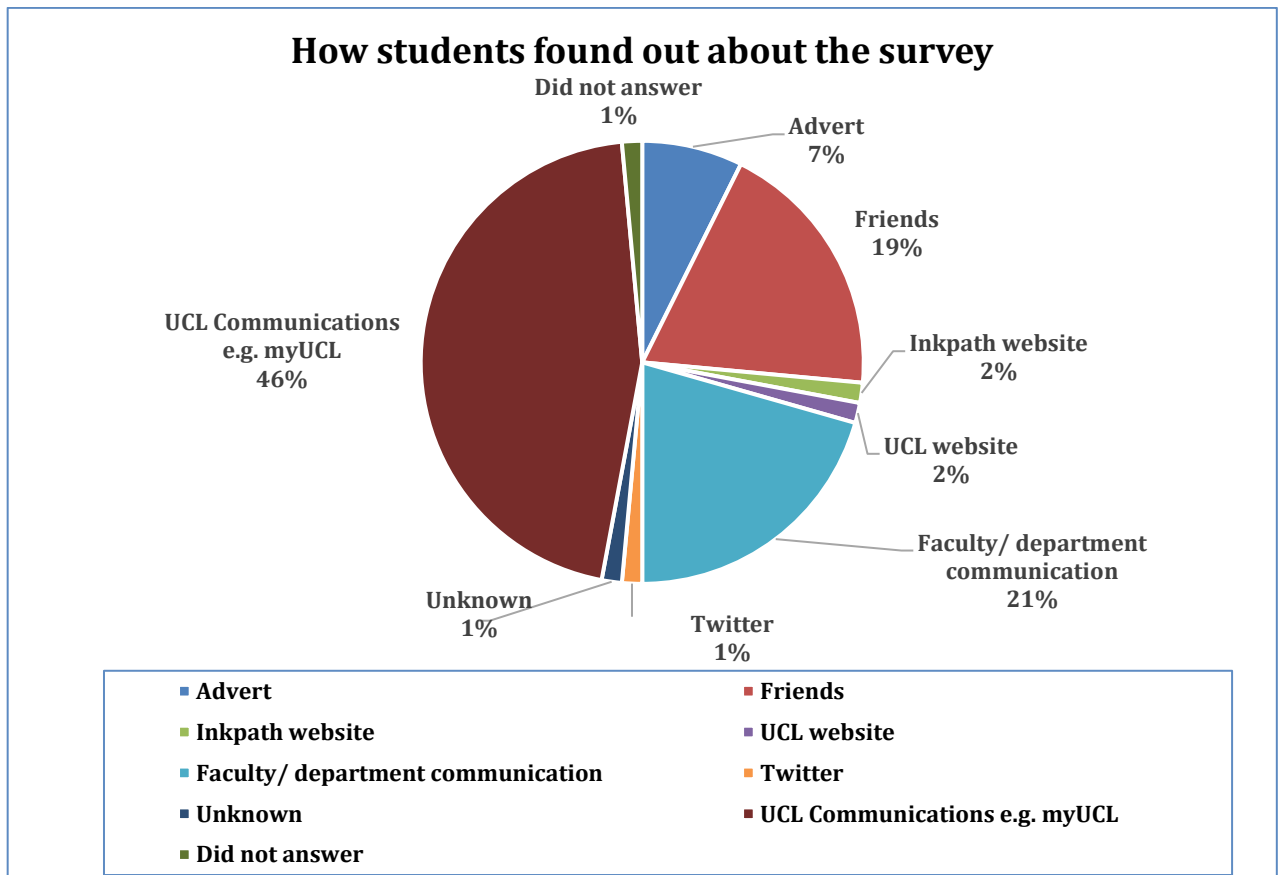
68 students from around the world took part in the Survey – most (**45%**) were **undergraduates**, along with postgraduate taught and research students. The majority said they had **no known disability** with **19%** declaring a **mental health condition**; one stating **other** and one **preferring not to say**. Respondents were invited to leave their details if they wanted to take part in a follow-up Focus Group.

Students taking part in the Survey

Postgraduate: research 18%

Postgraduate: taught 37%

Undergraduate 45%

Legend: ■ Postgraduate: research   ■ Postgraduate: taught   ■ Undergraduate

Student demography

Europe: outside the EU 2%

Europe: within the EU 24%

Rest of the World 34%

UK 40%

Legend: ■ Europe: outside the EU   ■ Europe: within the EU   ■ Rest of the World   ■ UK
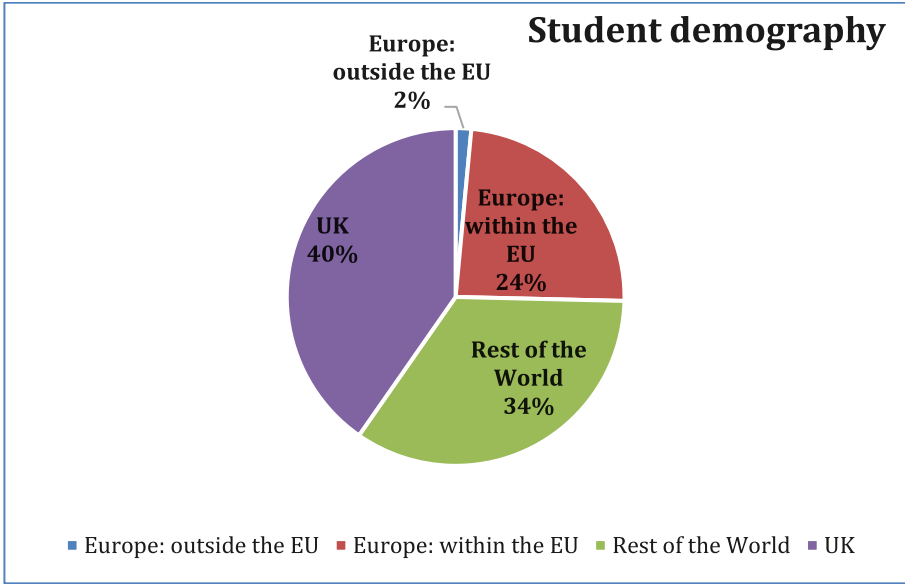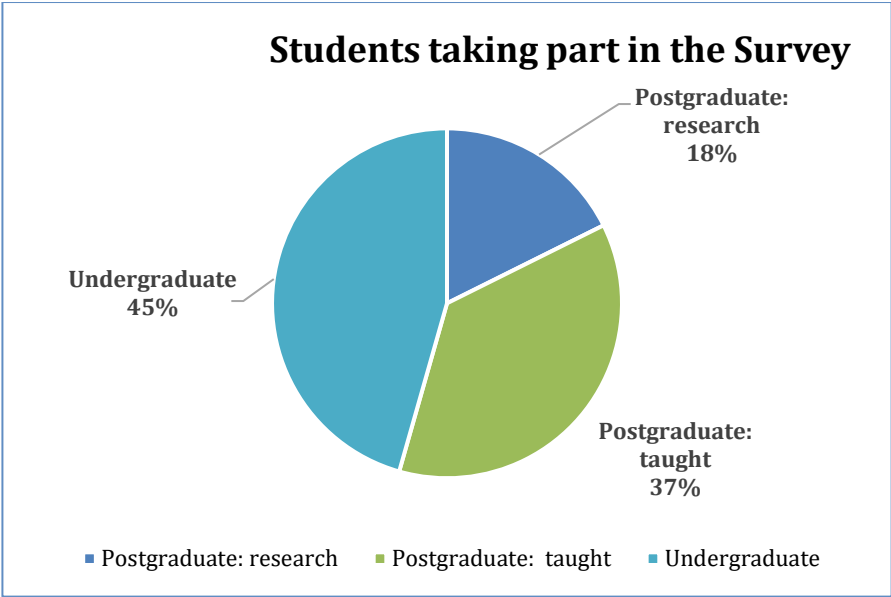
Focus Groups

To complement the findings of the Survey, we also ran seven one-hour Focus Groups over the three weeks beginning 5, 12 and 19 July. Groups were moderated by the Research Assistant leading the evaluation and co-moderated by a number of UCL library or teaching staff.

A £20 online reward voucher was offered to each student who participated in a focus group.

26 students participated in seven Focus Groups:

- Students who had answered the Virtual Learning Spaces Survey who had said they would be willing to take part in a follow-up Focus Group. There were four groups ranging in size from three to six participants, with one group of just one student. These groups were co-moderated by the *Library Services' Customer Services Coordinator.*

- One group of Chemistry department first- and second-year undergraduates who took part in virtual revision sessions (via Zoom) initiated by the lecturers in Chemical Biology before end of year exams. This group was co-moderated by an *Associate Lecturer (Teaching), Student Experience. Department of Chemistry.*

- Two groups of post-graduate doctoral research (PGDR) students at the Institute of Education (IOE) who responded to a separate call, outside of the Survey, to take part in the Focus Groups. The students had expressed an interest in having access to a virtual study (chiefly writing) spaces set up to cater for their specific needs. However, despite being publicised by the librarian on several occasions, there was a low uptake of the rooms, suggesting that the timing was not quite right for them. These students, were, nevertheless, highly enthusiastic in their contributions during the Focus Groups. These groups were co-moderated by *Research Support & Special Collections Librarian,* herself a doctoral research student, who supports the PGDR students through her work at the Centre for Doctoral Education.

Both the Survey and the Focus Groups were publicised on the Library Services' webpages and other channels. These included: the OneLans screens, social media, the Student Experience Panel newsletter, Student Union newsletter, Subject Librarians' networks and Library Skills sessions.

Information gathering sessions

In addition to the Survey and Focus Groups, a number of information gathering sessions were conducted via MS Teams meetings with:

   i. Faculty learning technologists and Digital Educational specialists
   ii. Faculty and Departmental leads

i. **Faculty learning technologists and Digital Educational specialists**

Neil Robertson, Learning Technologist, and *Janina Dewitz, LTMS Digital Education, Brain Sciences.* The learning technologists explained the results of a project, which had included a survey to assess usage of, and support for, virtual learning platforms being used by students in their department. Many platforms are not centrally supported so the specialists are seeking to grow a community forum by which to support students.

Leo Havemann, Digital Education specialist. Leo had, along with Fiona Harvey (see below) supported an initiative by Dr Melanie Garson in the Department of Political Science to deliver negotiation and conflict resolution courses using the VirBELA "virtual campus". Dr Garson presented her experience of using the VirBELA platform at the APT Conference in early July in a break-out session called, "*Learning to Walk Again* (a play on words since she had kept bumping into the virtual walls when trying to walk in the virtual space*): An educator's journey teaching in virtual reality*".

Fiona Harvey, Faculty Learning Technologist Lead, Social and Historical Sciences. Fiona has promoted Talis Elevate, a collaborative annotation tool that enables discussion to take place within content across documents, images, and media. This has since been adopted more widely within the faculty.

Informal feedback on the use of the Library Virtual Learning Spaces and virtual common rooms in various departments was also gathered from *Sean Gainford, Learning Technology Lead at the Faculty of Population Health Sciences; Matteo Fumagalli, Teaching and Learning Manager, Education Team* and *Anthony Harris, Teaching and Learning Administrator (Undergraduate) at the Department of Anthropology;* and *Nazlin Bhimani, Research Support & Special Collections Librarian at the Institute of Education Library.*

ii. **Faculty and Departmental leads**

JL Kiappes, Jr., Lecturer (Teaching), Chemical Biology in the Department of

Chemistry. JL had organised a series of online revision workshops using Zoom break-out rooms for first- and second-year students (the same students who took part in one of the Focus Groups) after they had submitted their final course work and just before exams.

Professor Daniel Richardson, Affiliate Tutor, Department of Experimental Psychology. Daniel Richardson had initiated the use of Gather.Town for his first year Psychology students having heard about its use in the work environment. The department provided a budget for the initiative, although access was initially via a free trial. Working in groups of five in different virtual rooms of the platform (detailed further in the report), students displayed posters they had created for an advertisement to encourage more donations to charity. The platform allowed visiting lecturers and guests from outside the UK to be invited to speak or visit (a Just Giving representative was invited to the poster session). The initiative was promoted on the departmental Moodle page. The department plans to keep running the virtual sessions on the platform next year specifically to enable it to recruit international students to the course.

4. Research findings

The Virtual Learning Spaces Survey and follow-up Focus groups offered an opportunity to consider how has the experience of being off-campus and having to work or study virtually has changed students' expectations for the future as a "new normal" emerges across campus and in the classroom.

Student experience before campus closed

Before campus closed in 2020, students said that they would meet at library or Student Centre with friends at a certain time to motivate themselves to get started as "*studying together can work better in a group*". They found that this, "*helps to reduce distraction*", provided "*motivation and morale*" and "*reduced boredom... or tiredness over long sessions, for example, all day during exams.*"

Students said they missed the peace of a library in which "*you can look for a quiet space that you like or a physical book... whereas online you are just in a study space*". And

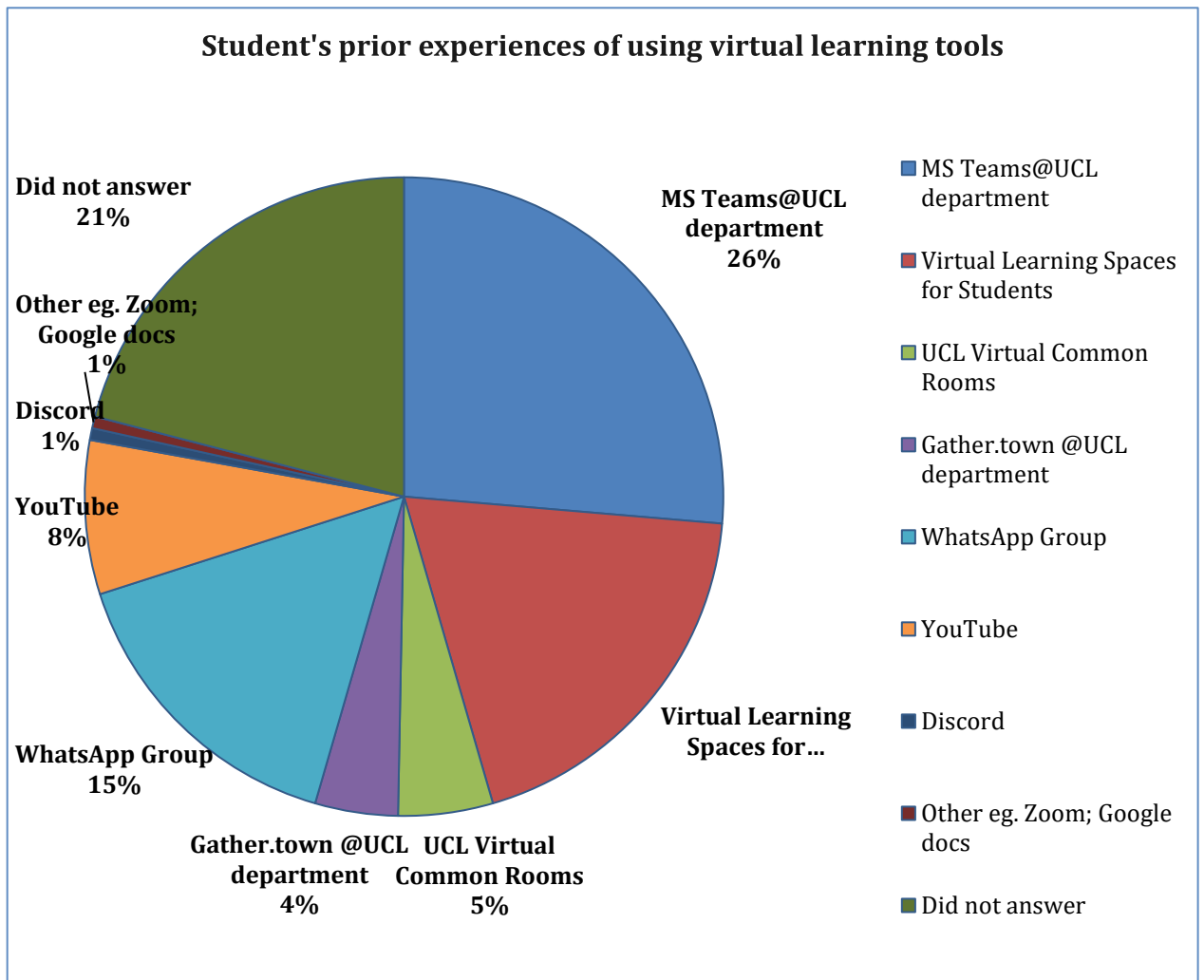they missed "*the Library Assistants being there to ask questions of."*

They also missed the study spaces provided in the Student Centre where "*you can work together*". And the hustle and bustle of the on-campus "*café environment [which] allows working at ease like at home*" i.e., not having to worry about making noise or being able to have a meal while studying.

Prior to 2020-2021, students had had little experience of virtual learning or study, except for pre-recorded lectures "*usually Skype or Teams and suggested by a professor or someone… as they couldn't meet in person*" and some had attended non-UCL webinars to expand their learning or outside interests.

Some students did already have informal systems in place to call friends and study together listening to playlists. Others had tried *StudySteam[4] (*a virtual platform providing free 24/7 Focus Rooms for school and university students), and one said they had tried "*so many types including TenCent Classline… but* "*I prefer studying in the campus."* Another student said her lecturer had suggested the use of *Koko* (https://www.koko.ai/) which is similar to *Gather.town*. Others had followed *Study With Me live s*treamed music or *Pomodoro*-timer sessions on YouTube or streamers such as Kharma Medic. While one post-graduate doctoral research student at the Institute of Education (IOE) said that YouTube streamer, Ali Abdaal's Study with Me session (https://www.youtube.com/watch?v=fKNiV9UHPPo) "*had been a miracle to me*". One student had used *Forest study app* (https://www.forestapp.cc/) – an app which encourages students to work towards their shared study goals, motivated by the threat of virtual trees they have planted dying if their goals are not reached! Most students, however, had not used any virtual learning space or platform before because "*you could just go into a library if you needed to*".

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[4] These and other platforms are explored further in Virtual Study Spaces, Sam Thornton, 24 Jun 2021, *Joint Information Systems Committee* (JISC))

Student's prior experiences of using virtual learning tools

MS Teams@UCL department 26%

Virtual Learning Spaces for...

Did not answer 21%

Other eg. Zoom; Google docs 1%

Discord 1%

YouTube 8%

WhatsApp Group 15%

Gather.town @UCL department 4%

UCL Virtual Common Rooms 5%

Legend:
- MS Teams@UCL department
- Virtual Learning Spaces for Students
- UCL Virtual Common Rooms
- Gather.town @UCL department
- WhatsApp Group
- YouTube
- Discord
- Other eg. Zoom; Google docs
- Did not answer

Use of virtual learning / study spaces after campus closed

Students told us that "*me and my friends were really surprised by the idea of VLS at first*" but that using them "*really gives me a sense of belonging that we are studying in the University*".

Respondents who participated in the Virtual Learning Spaces Survey said they had mainly accessed the virtual learning spaces from home in the UK (**31%**) or outside the UK (**10%**), but some (**12%**) had done so from the UCL Student Centre or one of the libraries.

Some student said that "*for now, I have not felt the need to use it [the virtual study room], because I live with a lot of other students*". One master's student at the Bartlett School

interviewed for the Focus Groups said that he had not used the spaces because, as he did not live far away, he had continued going to campus all year as," a *change of scenery is very important"*. As a result, his performance as a master's student had actually gone up compared to his undergraduate year because so many distractions had been removed in the last year.

Motivations to use virtual learning spaces

Students found that it was "*great to be able to replicate virtually*" the same in-person, on campus "*social pressure*" to study that being at the library or Student Centre, with friends in pre-booked group workspaces, provides.

i. **Motivation and resisting procrastination**

One student told us, "*I used to go to the library last year before lockdown. It was a really good place to study. With the pandemic, I felt quite demotivated and it's why virtual learning spaces helped me. Seeing people working around you can really help you to concentrate.*" Another said that the virtual spaces provide the motivation to "*get out of my room*", or when they were not in the mood to study.

Another referred to "*seeing other people studying, stops me procrastinating.*" Even if s/he knew no-one was watching, the fact that the virtual learning spaces are public prevented her from thinking, "*oh well it doesn't matter if I spend 20 minutes on my phone as no-one will know. I think that's why it's beneficial for me*".

And one master's student felt that "*when you sit at home 24/7 pretty much, and don't contact any people, I think it's useful to contact somebody and actually see other people. I think it's useful for meeting people from around the world who couldn't come, obviously, because of Covid.*"

In particular, students said that being visible in a virtual space helped them resist the lure of their **phones**. When they could see other studying or when others might be able to see them on their phones, this increased their focus and enabled them to resist distraction.

ii. **Peer pressure**

Students referred frequently to "*peer-pressure*" in regard to having other people around them to assist with focus. Working in the virtual spaces meant they felt as though they "*had company of everyone else studying*" and it was "*a*

way of being held accountable, in a low-pressure environment". Another said that at the time the spaces were made available, "*there was barely anything else to attend and a lot of other modules didn't offer virtual revision sessions - we weren't really talking to anyone else except from the course*". So, having "*live and synchronous things to sign up for*" relieved the "*mountain of work that was a bit of a burden*". A chemistry undergraduate, who had attended the series of departmental virtual revision sessions, said that working in a virtual space rather than at home on her own, took "*a lot less energy to work in that space than on my own… It may not make a practical difference to how I work but I find I'm a lot less exhausted at the end of it because there's not the temptation to not work.*"

These reflections are mirrored in a JISC blog post by Sam Thornton in which he discusses the "*psychology of mimicry and/or social pressure*" which the producers of virtual study products give as reasons that their users can be more productive. "*In much the same way that being in a real library surrounded by others who are seemingly hard at work might motivate someone or make it easier to focus.*" [5]

iii. Social connection

Some students *did not* use the virtual space for studying as they "*can't study where people are talking around me or where there is noise, I really need quiet time and find the same with the library – people talking around you, noise, dropping books, asking questions or talking to you*".

However, these students did use the spaces to connect **socially** as they had "*really missed this interaction this year between peers this year – the study breaks".* One said,*" I would go to a quiet room by myself, try to study but then would walk out of the room after an hour of two and try to meet people online and compare what they had written for questions.*"

iv. Collaboration

Students found that one of the main advantages of online virtual study for revision or project work, is that it allows students to file-share. In this respect, students preferred MS Teams which they described as "*more professional*" to Zoom since it allows saving of team chat over the whole term; direct planning

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[5] Virtual Study Spaces, Sam Thornton, 24 Jun 2021, Joint Information Systems Committee (JISC))

of meetings using the calendar function; and saving of multiple, shared files in one place.

Students also mentioned that screen-sharing, screen-drawing and access shared PowerPoints was very helpful.

The Learning Technology Lead in the Faculty of Population Health Sciences also told me she had helped set up meeting spaces for students using Moodle's **Blackboard Collaborate**. The sessions were always open with tutor permission for students to meet whenever they wanted to. However, she did not have any other data how much these were used or whether students just decided to exchange details and meet up for study on a different platform. In Focus Groups, however, students told us that they "*really, really disliked the Moodle Blackboard version of chat*" and that "*it's awful*". One noted that, "*Blackboard Collaborate died when the whole cohort tried to use it at the same time!*"

Downsides of virtual study and learning

Some students, however, said that the virtual common rooms or online study session did *not* help them study. "*One thing I expected was that when turned it on it would put me in a better headspace to work but it didn't as I was still in my room.*" Another said, "*I can still do things other than study – eat and sleep, chat with friends on my phone and social networking and notifications are still on so my phone that still disturb me from studying. No one knows if I turn off my camera so that's not as good as campus study space.*"

Students interviewed in Focus Groups also listed a number of other downsides of using the virtual common rooms or revision session supported on MS Teams or Zoom.

i. **Lack of engagement / interactivity**

Some students said they had expected that, "*people would be more interactive… especially as, without a camera on, it's less intimidating than asking questions in a lecture hall. But even so people didn't ask questions. It was awkward – they couldn't get their cameras to work, or their mics. Including the lecturers.*" Echoing some students' experience of the Virtual Learning Spaces for Students piloted by Library Services, students said that when they had tried them, they found "*no-*

one [was] in the virtual common rooms."

ii. Lack of visibility (cameras)

Students did not necessarily want others to have their cameras on during lectures, as "*I don't want to look at myself when the lecture is on*". In less formal virtual sessions however, students said that the number of participants in virtual sessions choosing to have keep their cameras switched *off* was the aspect that most hampered their virtual study experience. When others had their cameras turned off "*it felt like I could just do whatever*", including the possibility of "*lying in bed when they had classes*".

Students generally felt that: "*if you have your camera on then you are more accountable... more comfortable*"; and *"it would be a lot more successful if more people had had their cameras on."* One said s/he felt, *"it would have just taken one person to take that lead and turn their cameras on. Maybe I could have been that one person who took the lead, should be next time. But it's a difficult one as making [having cameras on] mandatory might put people off."*

The difficulty was encouraging enough people to turn their cameras on because *"if only one person has their camera on it can be quite distracting"* and students felt more conscious of their actions on camera as "*it's right in front of you*" and "*feels like you're being watched*". One student in a JISC study said that "*the idea of being watched on camera while studying reminded them of Black Mirror*" (and this presents a considerable barrier to adoption).

iii. A face in a crowd but not enough of a crowd…

Students said they disliked being in "*a small group of people looking at you.*" They tended to prefer MS Teams classroom view option to Zoom because, as more people joined a virtual study session, "*it would be less off-putting than just me on a big screen.*" In this respect, those who had tried them, said StudyStream or "S*tudy With Me" live* streams on YouTube where being a "*face in a crowd would worked better… People are actually studying… [and] those links are joined by 200 people sometimes and they all have their cameras on – or at least the first couple do – so it feels a lot more like a library space*". Another student, however, said s/he found multiple screens with hundreds of participants joining or leaving could be off-putting, "*It was lagging a bit as there were so many people on it. After 20 minutes I turned it off, it was just annoying.*

People join and leave so it jumps all over the screen."

iv.   Timing and publicity

Informal feedback from the Learning Technology Lead in the faculty of Population Health Sciences said that they knew that virtual learning and common room spaces had been set up but were not used much. Similarly, undergraduates in the department of Anthropology were given access to a Virtual Common Room (VCR) but despite the best efforts of the departmental Faculty Learning Technologists (FLTs) to direct the students there early in the year, it was only really utilised during the last few months – as a social space for quiz nights (Fridays) and as a quiet study space (Thursdays).

Feedback from students was that spaces not been available earlier on in the year or that they did not find out about them until later in the academic year. *"It's been the timing, mainly. The first two weeks is when we wanted to make friends, but no-one found out about these VCRs before the middle of term and by that time it was a little bit too late, I think."* Another said, "*I think not a lot of people knew about it. So, I joined one and told my friends. But even then, I only saw it [advertised] in one obscure email that I happened to open.*"

Students also said that although the VCRs had been set up they found "*it really hard to organise [meeting other students] organically from the ground when you don't know each other*".

Some of the IOE post-graduate research students who took part in the Focus Groups expressed frustration that as a group of teachers, often on remote placements, it had been hard to make sure people came to common room sessions at the same time even when groups were small. One lamented the fact that a writing group s/he joined had started off well but then people stopped coming – "*it just didn't work*". Others said that at the beginning of the year - September or October - there was a group keen to socialise and get to know others doing a PhD but "*we had to fight for quite a while*" for a virtual space to be set up. One student said this was due to reluctance by the department to share students' email addresses as it did not want any students to feel left out or, conversely, pressured to join in. The student ended up circumventing this as "*we decided, well, **we** know each other*" so set up their

own post-lecture break- out sessions.

    v.   **Online exhaustion**

One student reflected that "*people sign up [but] when it comes to it, they don't [attend]. Also because of Zoom / screen exhaustion*". One post-graduate doctoral student (PGDR) student said, "*after a while I became exhausted as I was sitting in the same chair every day so there was no separation between home and study life [even with the availability of the online study rooms], so I wanted some outside interaction*".

    vi.   **Too many platforms**

Students also that there were too many platforms to cope with and that there were "*all different things throughout the course all inter-mixed - it's true that one time it's Teams, one time it's Zoom and, one time, Jams (https://jam.com/). I feel like it's un-organised.*"

"Etiquette"

One Focus Group participant proposed the idea of developing an "etiquette" around the use of virtual study sessions and spaces. Students in Focus Groups generally agreed that this would be a good idea. One PGDR student educator said that "*during this whole pandemic people fell into feeling comfortable not having make-up on, not having cameras on…The way I see it is that virtual meetings / sessions should be treated as face-to-face meetings. Even if the participants are exhausted, if they choose to join a session and be in a social environment, I feel like it would be expected of them to 'show' themselves as they would in a physical classroom.*"

If a code of etiquette were to be developed, then a key element must be that participants had cameras turned *on* if they were able to. Some students said they actually felt resentful if participants, particularly in moderated sessions, did not have their cameras on. One said, "*it's the way it should be done – that it's actually etiquette to have the camera on.*" While they understood that cameras had to be voluntary because "*people are shy and don't want to [be the first] to turn their cameras on*", some "rules of engagement" could be set out in writing on the waiting room screen, or intranet page where the link to the sessions were posted.

One chemistry student who had participated in departmental virtual revision sessions said she thought that etiquette was "*a brilliant idea*". Any code that was developed
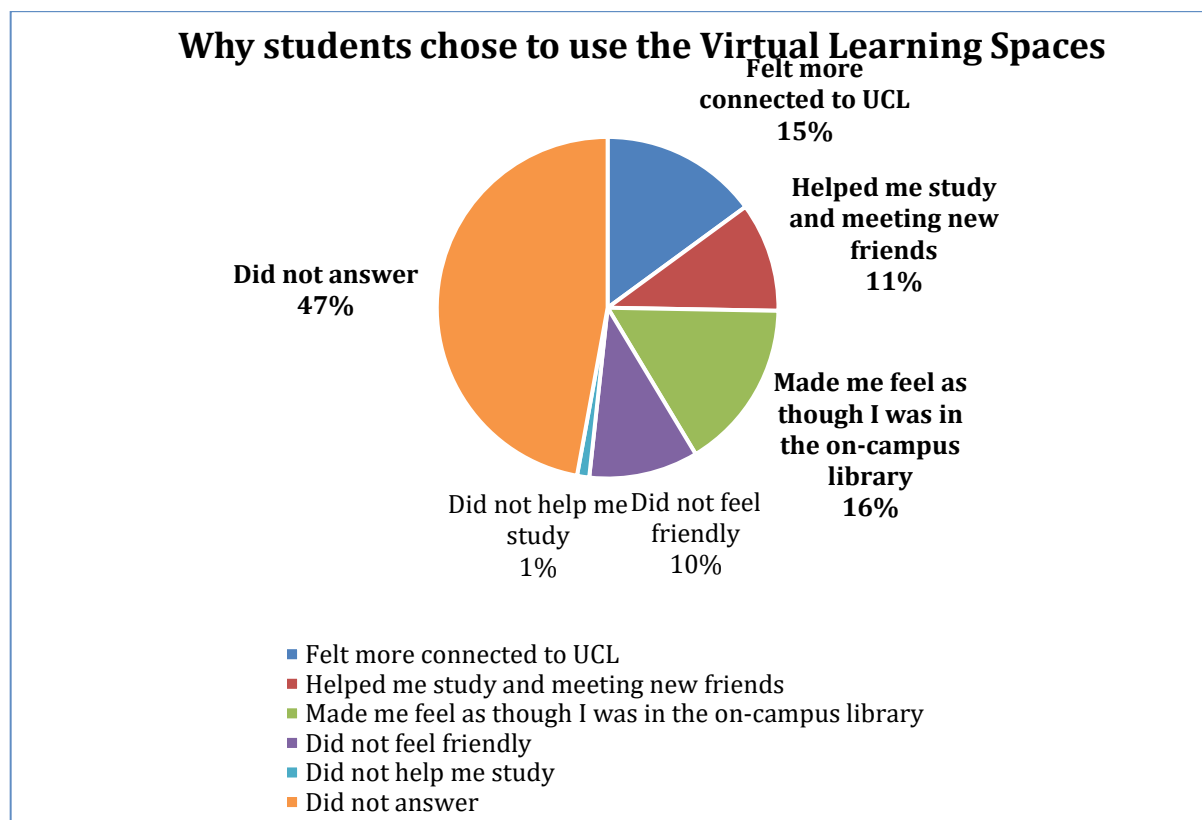
could be underpinned by making it clear that the sessions are "*a non- judgmental space and nothing will be reported to teachers because maybe that's what people got scared of and it hadn't been made clear before the session*".

Virtual Learning Spaces for Students (Zoom rooms) pilot

The Virtual Learning Spaces for Students (Zoom rooms) were piloted by Library Services, with Information Services Division (ISD), during May and June of 2021. Of students who took part in the Survey, **15%** said that Virtual Learning Spaces (VLS), had **helped them feel more connected to UC**L; **16%** said it made them **feel as though they were in the on-campus library**; and **11%** said it **helped them study and meet new friends**.

Although **less than half** answered a different question on why they had liked using the VLS for Students, *most* who did said they **liked people just being there to keep them on track with studying**. Or to **interact – chatting / messaging - with other people in the library spaces**.

Why students chose to use the Virtual Learning Spaces

- Felt more connected to UCL — 15%
- Helped me study and meeting new friends — 11%
- Made me feel as though I was in the on-campus library — 16%
- Did not feel friendly — 10%
- Did not help me study — 1%
- Did not answer — 47%

Legend:
- Felt more connected to UCL
- Helped me study and meeting new friends
- Made me feel as though I was in the on-campus library
- Did not feel friendly
- Did not help me study
- Did not answer

Silent versus Social study

Students who had used the VLS for Students said they appreciated the division between silent and social study space which "*mimicked real-life fun versus serious study sessions*" and were "*really good for different types of work and [it was] good to see that reflected in the trial.*"

One student said that because s/he would not be the first person to have their camera on s/he thought, *"there could be two types of study rooms – one with cameras on and one where it's not compulsory to have cameras on."*

Type of VLS space used

Did not answer
16%

Silent Study and
Social Study spaces
23%

Social Study space
16%

Silent Study space
45%

■ Silent Study and Social Study spaces ■ Silent Study space ■ Social Study space ■ Did not answer
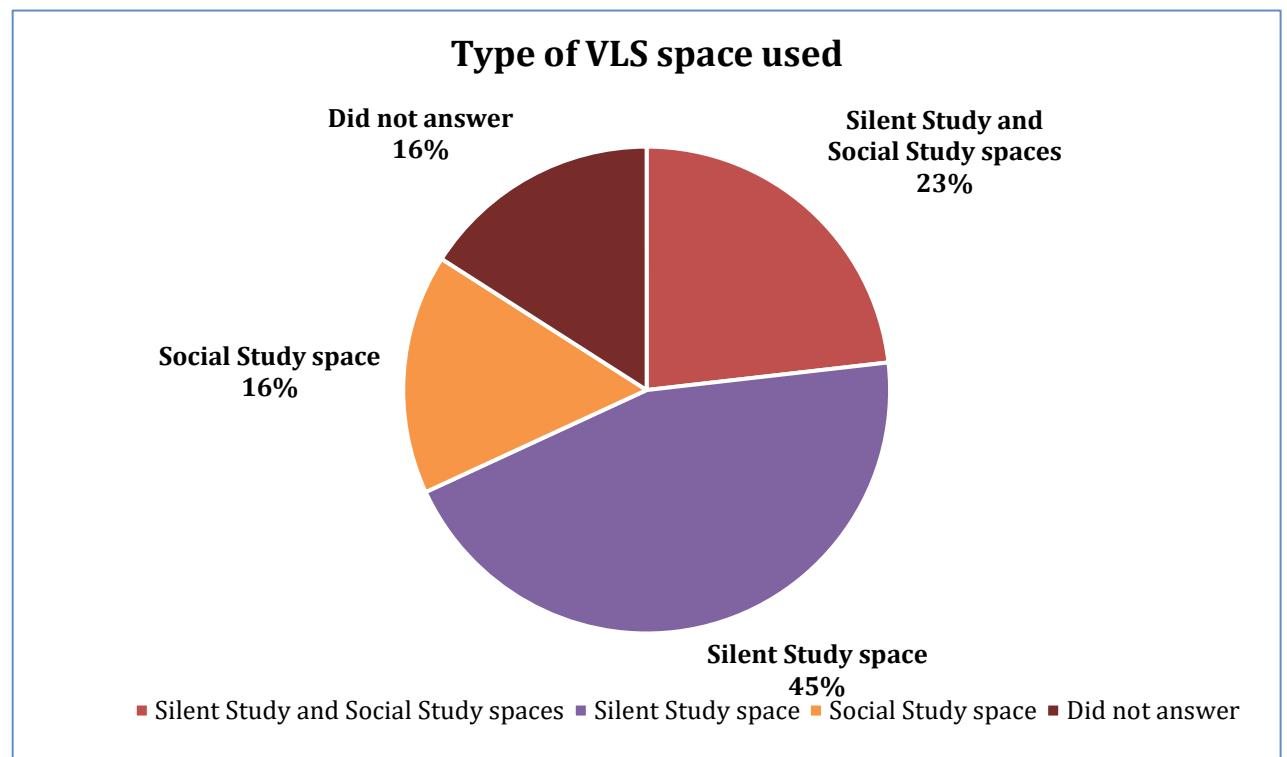
Difference between expectation and reality

Asked how their actual experience of using virtual learning spaces differed from what they might have expected, students said that they, **"***definitely thought it would be more interactive – cameras on and the backdrop would have been nice as well."*

This was reflected in the online Survey. **24%** of those who responded said **there were not enough people in the room** and **48%** who said, **"***no-one had their camera on*" so it **didn't feel very friendly or interactive**.

One Focus Groups participant said s/he had experimented with both the social and silent study spaces to '*get out of her room*' but "*it didn't have that much effect because I could do whatever because my camera and my microphone were turned off. So, it was more like a screen on my laptop rather than a big focusing tool (maybe I just logged on the wrong day).*"

<div align="center">

"Nobody... talking and no one having their cameras on".

</div>

Another said, "*I logged on and there were three other people with their cameras off and no-one talking. I had that on one tab on my computer, and I then switched to the other tab on my computer where I was working, so it was like I wasn't logged on [to the VLS] because nothing was happening. Nobody was speaking. I wasn't seeing anyone because when I was doing my work on the side, so it was exactly like I wasn't on the zoom call.*"

Students' experience of using the Virtual Learning Spaces for Students

- Felt more connected to UCL — 16%
- Not many had their cameras on so it didn't feel very friendly / interactive — 48%
- There weren't enough people in the room — 24%
- Wary of unsolicited approaches while using the space — 3%
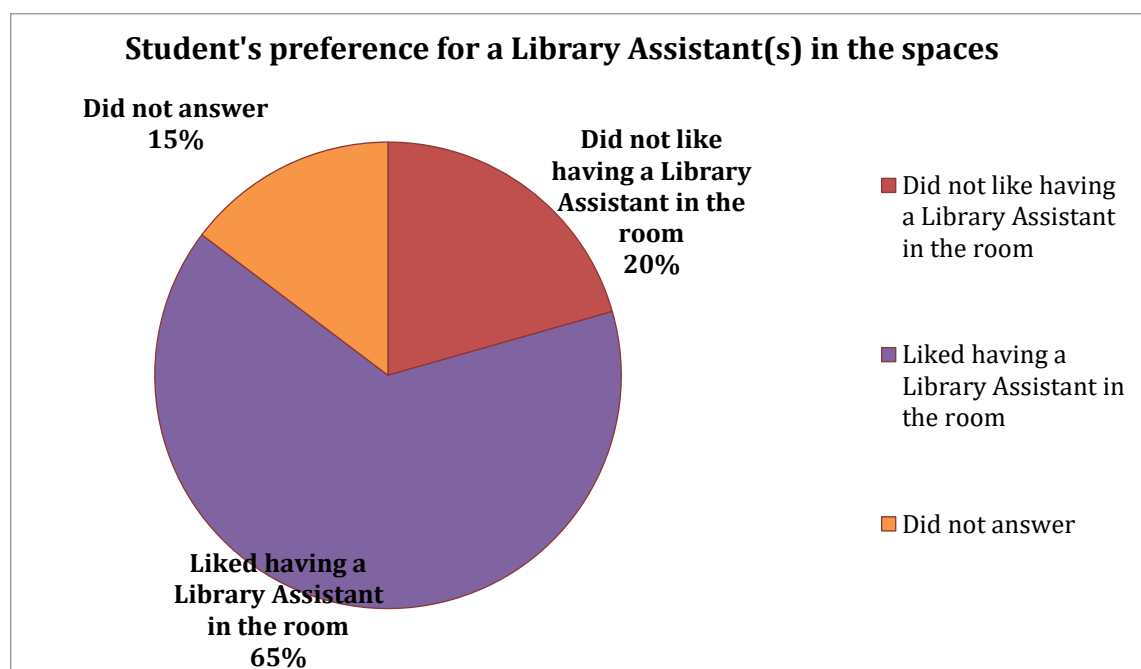- Did not answer — 9%
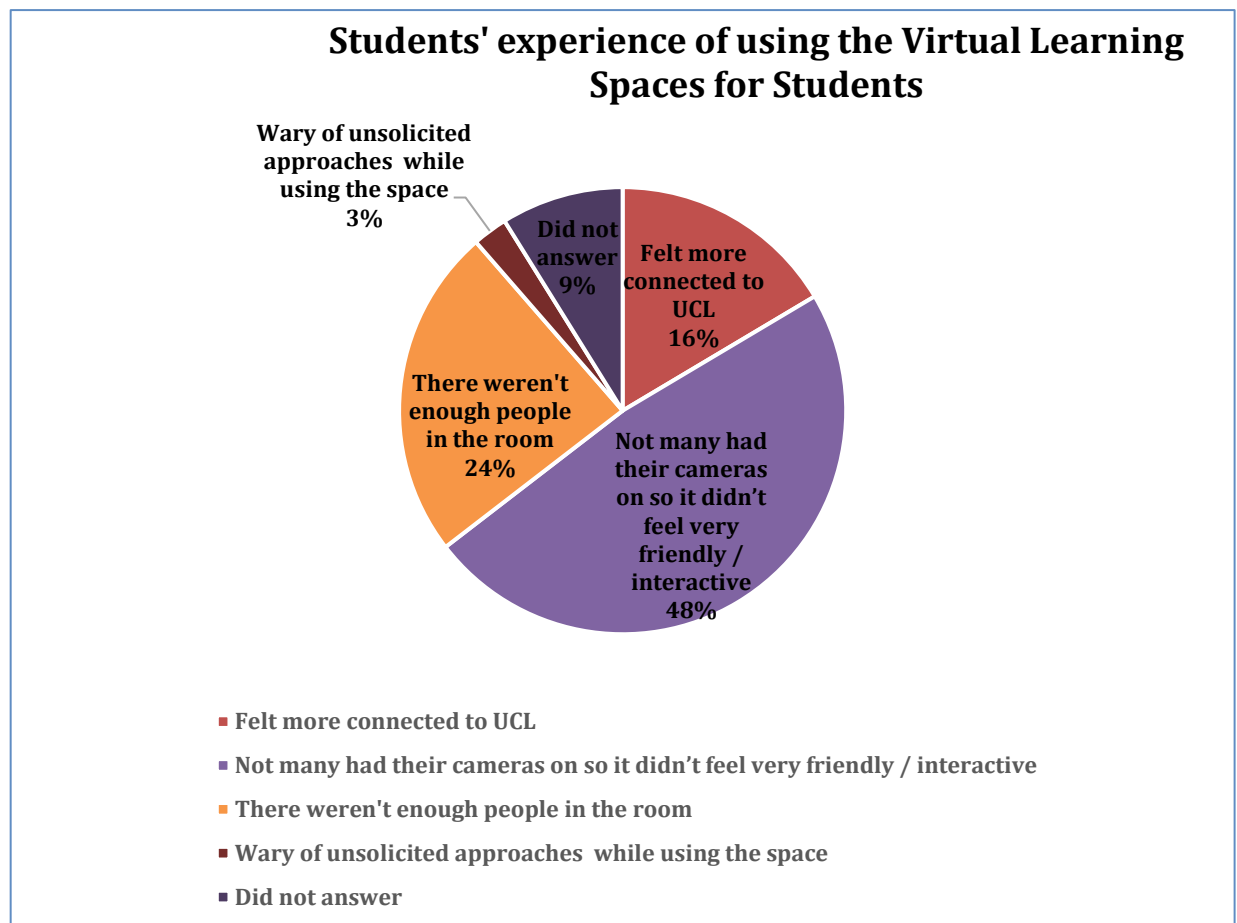
One student said when s/he had visited the rooms the first time, s/he had been disappointed but the second week "*there were around 10 people and at least three had*

cameras off so it was better. So, I stayed like one or two hours, and it was useful. Otherwise, it's like I'm in my room with no noise, no sound so in that case I would prefer music."

However, students also felt that having the camera on was awkward if there was just one other person in the virtual room, because it is different from being in the physical library where no one is really looking at you, "*they're just there*".

Library Assistants

65% of students responding to the Survey said that they like the Library Assistant(s) being in the spaces.

Student's preference for a Library Assistant(s) in the spaces

Did not answer
15%

Did not like having a Library Assistant in the room
20%

Liked having a Library Assistant in the room
65%

- Did not like having a Library Assistant in the room
- Liked having a Library Assistant in the room
- Did not answer

Interactive features in the Virtual Learning Spaces

Students who answered the Survey were asked what **features** they might like to see in the Virtual Learning Spaces for Students. Ultimately, they said that the most important aid to connection, interaction with others and focus were "***the faces, cameras and level of interaction***". Of additional, "nice to have" features, they suggested:

Features students would like in a virtual learning space

"Break out" study rooms where I can meet friends 6%

Did not answer 3%

Other features available e.g. livestream, background soundscapes 11%

Seeing others' profile picture even if their camera is off 16%

24-hour access 15%

3D rooms I can move around to 14%

A Pomodoro timer to help manage study time 14%

A forum / chat section 11%

A 3D avatar instead of turning my camera on 10%

Legend:
- "Break out" study rooms where I can meet friends
- 24-hour access
- 3D rooms I can move around to
- A 3D avatar instead of turning my camera on
- A forum / chat section
- A Pomodoro timer to help manage study time
- Other features available e.g. livestream, background soundscapes
- Seeing others' profile picture even if their camera is off

i. Profile pictures and avatars

16% of students that seeing a **profile picture even if the camera was off** was preferable to nothing and **10%** said that a **3D Avatar** "*would be better than nothing for sure, but definitely the cameras are best option if possible.*" Since **19%** of students said they had not used the Virtual Learning Spaces due to broadband or connectivity issues, this would be an important consideration to allow students to show "presence" without having to have their cameras on (which eat up bandwidth).

ii. Pomodoro timer

14% said they would like a **Pomodoro timer** feature to help them stay on track with studying. One Focus Group candidate said that, although useful for revision of a single topic of an exam, s/he would have preferred longer sessions "*I found it distracting that I had literally just started working on something*

and then I have to stop. After the break, I had to get back to the zone again and it was difficult, at least for me."

iii.   24-hour access

15% of students said that they wanted **24-hour access** reflecting comment in the Focus Groups that *"I can only access the VRSs in the weekdays and it's not 24 hours"*.

iv.   Forum or chat section

11% said they would like a forum or chat section; and **6%** liked the idea of break-out rooms in which they could chat to their friends (perhaps to discuss project work or for breaks between study sessions); while **14%** chose the option of 3D rooms in which they could move around.

v.   Livestream

27% of students who responded to a different question in the Survey said a livestream of campus "*would be a nice touch.*" One said, "*definitely add in the backdrop of campus, white noise… [and] "I would use it.*" Another suggested that "*a static image of the library, like a collage to ensure the student is in the right place and reduce the bandwidth*" would be helpful.
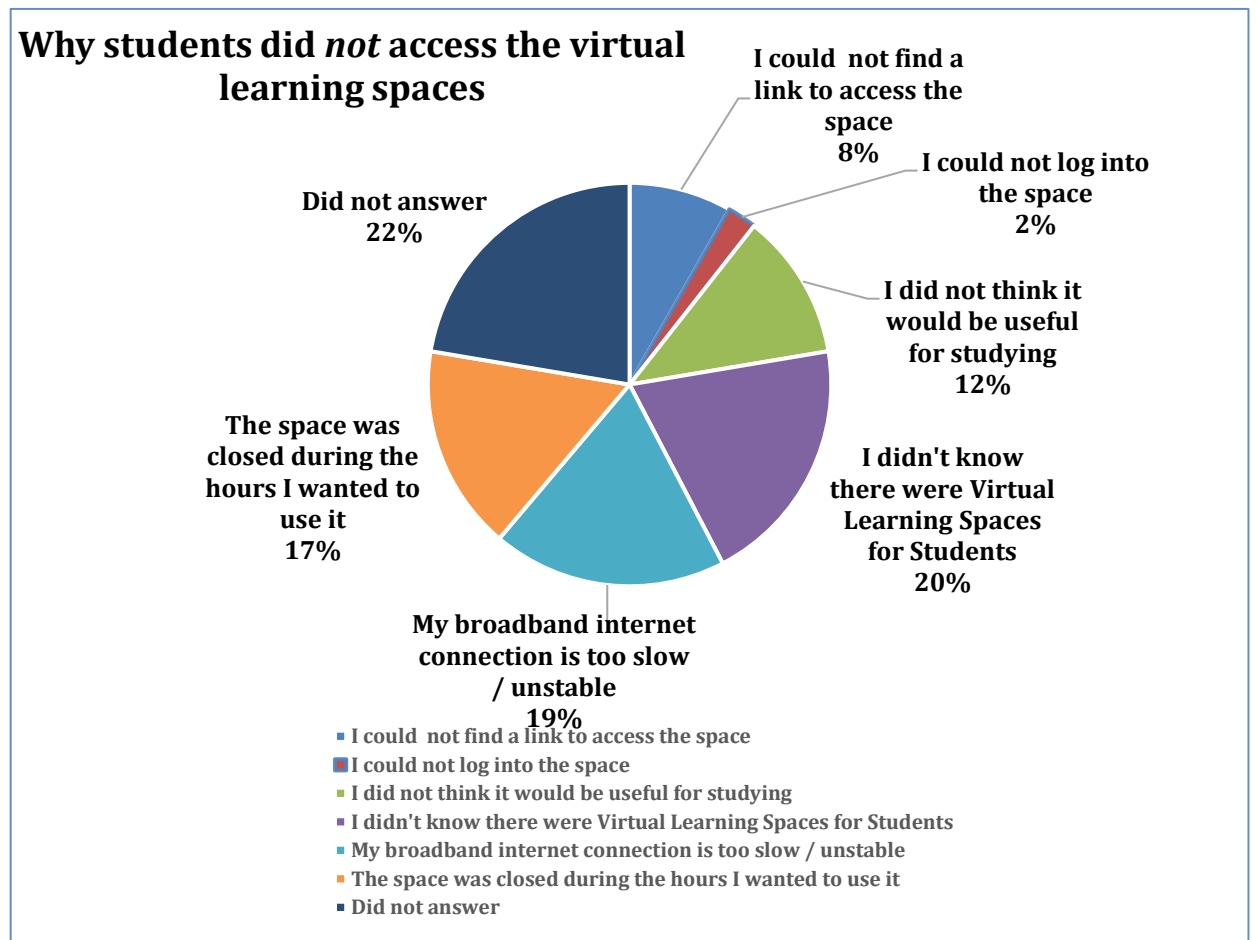
Other features that students liked the idea of included:

Music: students said that music needed to be a feature that could be turned on or off according to the user's preference as "*it's bit difficult to choose something that suits everyone… like this random jazz music that cafes play for 18 hours*". But that some sort of auditory reminder of that "*I'm part of something*" such as "*sounds that mimic campus would be great. "*

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Soundscapes or White Noise: some students in Focus Groups said they had experimented while studying at home with sounds such as rainfall that at first they thought *"would be disturbing but I put the sound on low and found it really helpful.*"

Why students did not use the Virtual Learning Spaces

Of the students who took part in the Survey, **37%** said they dropped in but **left within 30 minutes** possibly reflecting the lack of connection and interactivity in the rooms; **31%** said they spent *part* **of their study session in the room** and **13%** spent **the** *whole* **study session in the room**. Some students said they *did not use* the Virtual Learning Spaces because they **did not think the spaces would be useful for studying** (**12%**); **could not find a link** (**8%**) or **could not log in** (**2%**).

Why students did *not* access the virtual learning spaces

- I could not find a link to access the space 8%
- I could not log into the space 2%
- I did not think it would be useful for studying 12%
- I didn't know there were Virtual Learning Spaces for Students 20%
- My broadband internet connection is too slow / unstable 19%
- The space was closed during the hours I wanted to use it 17%
- Did not answer 22%

Legend:
- I could not find a link to access the space
- I could not log into the space
- I did not think it would be useful for studying
- I didn't know there were Virtual Learning Spaces for Students
- My broadband internet connection is too slow / unstable
- The space was closed during the hours I wanted to use it
- Did not answer

Other reasons for *not* using the spaces included:

i.   **Broadband / internet connectivity**
     19% of students who answered the Survey similarly said that they did not use the VLS because their **broadband or internet connection was too slow or**

unstable.

ii. **"The library is closed"**

17% of students who answered the Survey said that the virtual space was **closed during the hours they wanted to use it**. For international students particularly "*the open time of the virtual study rooms is not long. So, they will not choose to use the VSRs if they can only access them for a few hours.*" Majors with a tight schedule during the weekdays said the spaces were closed at weekends when they might have used the spaces.

iii. **Timing of launch**

20% of students responding to the Survey said they did not know that the Virtual Learning Spaces for Students pilot had been running. While students who did know about the spaces may have found them helpful revising for exams at home, alone, they said there would have been more uptake of the virtual spaces (including departmental virtual common rooms) earlier in the year. "*There wasn't anything to really connect us at the beginning… at the start of the year... before people had formed groups, become friends with course-mates*", By May, however, "*I didn't' really feel the need to go to the VSS. They would have been a great resource in September when I was brand new and didn't know anyone, but once I'd found connections with people then it wasn't so necessary*".

Also, the repurposed physical study spaces - Bidborough House and Ramsay Hall - on campus had also opened "*so I think some people might have gone there instead.*" One student in the Focus Groups confirmed that they had used these spaces for studying.

A Note on Purpose

"Building a remote culture is integral to the uptake in the use of virtual learning spaces. While this can evolve organically through team activities, collaboration, and shared experiences, usually, it requires more deliberate thought and proactive effort to shape. The time teams spend together gives them a sense of purpose and belonging." www.workshopper.com

During our information gathering meetings, one Digital Education adviser said that his department did a lot of work to encourage the set-up of (centrally supported) Virtual Common Rooms on MS Teams, some of which took off and some which did not. This indicates that the difference is not necessarily the platform or the technology, irrespective of features, but the degree to which it was considered a worthwhile place to engage – the "popularity pull". That pull is dependent on those leading the virtual space initiative, their enthusiasm and how they lead the engagement. Referring to the virtual revision sessions organised for chemistry undergraduates, one student said that "*the fact that's it's been organised means you know why it been organised*" and this engendered a sense of purpose to the session or group.

"If study sessions have a clear objective so you don't need that many features."

"An invitation to be in a place does not work, or rather *only* works, when linked to purpose or what is to be gained." [6]

This was echoed by one Focus Group student who said that "*pre-prepared Q&A that the lecturers could ask or even some quizzes reinforcing what they taught us in the lecture*" would have helped engagement. "*Some of the Q&As were really awkward and the lecturer was just waiting for us to ask questions. If he has prepared some quizzers, or even had some topic in mind, that we could have discussed together or just make us think about something. Most of them were alright but it was all new, so we struggled*".

Moderation of spaces

Students said felt virtual sessions were less effective when "*it's like, just discuss this answer*" or when students are new to the subject and / or do not know each other. In these cases, students said that a moderator periodically entering a space to provide motivation for students to finish a question they were working on and obtain feedback, was helpful. One PGDR student said that s/he had come to understand that "*PhD is really a lonely journey*". Using the library had made it less lonely as "*it disciplines me*". However, the virtual spaces s/he had used didn't last long - they "*just became a space of advertising seminars. I needed a motivator.*"

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[6] Libraries are at the forefront of combatting loneliness and inequality, Pamela Tullough, *The Big Issue*

" When there is a central offering from Library Services to the whole UCL community then it makes sense to tie that back to the purpose of service that's offering it." – UCL Digital Education Adviser

In the case of a library Virtual Learning Spaces for Students, a Library Assistant being available for students to "*pop in and ask a question of*" would link the space to the purpose of the library. Some students said although they were "*not sure what I would have used a Library Assistant for, it would be helpful if I had needed to ask a question. I think it would add to the **feeling** of it being like a library.*"

Use of Virtual Learning Spaces after return to campus

"If I'm on campus, I'd use the physical library"

"I was just exhausted due to the online interaction"

"I like the concept of the virtual learning with others, so hope the University will continue to offer if for someone [those who] can't get to campus."

Students in the Focus Groups said they would "*personally, probably wouldn't*" use the virtual study or revision spaces after return to campus as they preferred the on-campus libraries and Student Centre. **32%** of those who answered the Survey, said they were **quite likely**, and **7%** were **very likely,** to ***use the on-campus library or Student Centre***. While **22**% said they were **quite likely,** and **12%** were **very likely**, to ***study alone***.

One said that, as it stands, "*once I've made the journey to campus, I want to get value out of my £4 tube journey*" (that is, by making use of all the on-campus facilities –the libraries and Student Centre). Another said that although they had made use of their Zoom study group every week "*this was during a time when we were socially deprived, so I was really happy to have that one contact moment. So once things go back to normal, I don't know if that would be the case.*"

"Will students or faculty now expect an option to join any class remotely? Are there elements of remote

learning that will persist in the classroom?" The answer to both of those questions was "an emphatic stream of +1's and thumbs-up emojis in the IM window. Students have made it clear they want the option to return to campus. They also want—and will expect—the option to join any class remotely or watch it later and contribute their thoughts to an asynchronous conversation."[7]

Students did not think that they would use the Virtual Learning Spaces while *on* campus as there were no spaces in which they could log into a virtual room or session on a laptop without it disturbing other people.

Blended on-campus and virtual offering

Students saw a benefit to having the virtual learning and study spaces available as a permanent feature in a "**blended offering**".
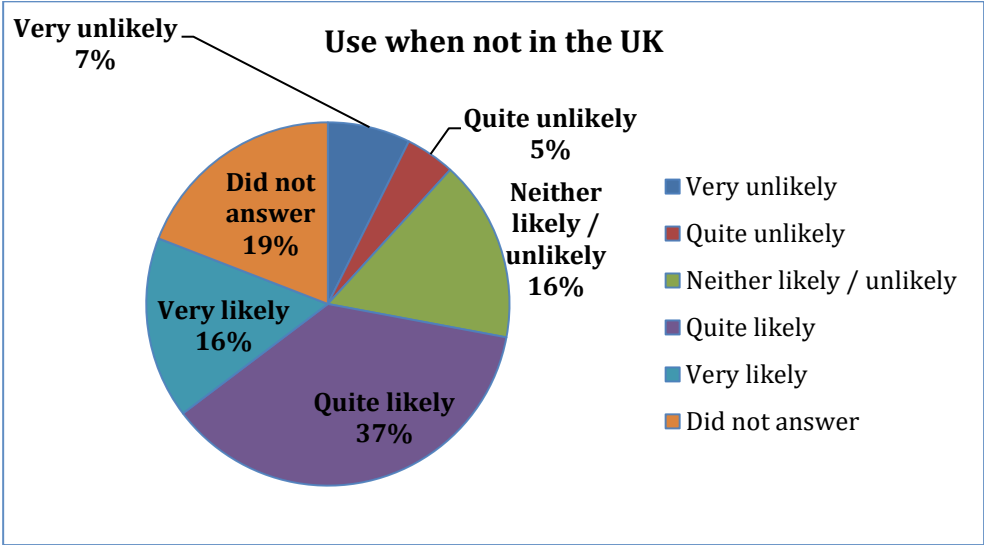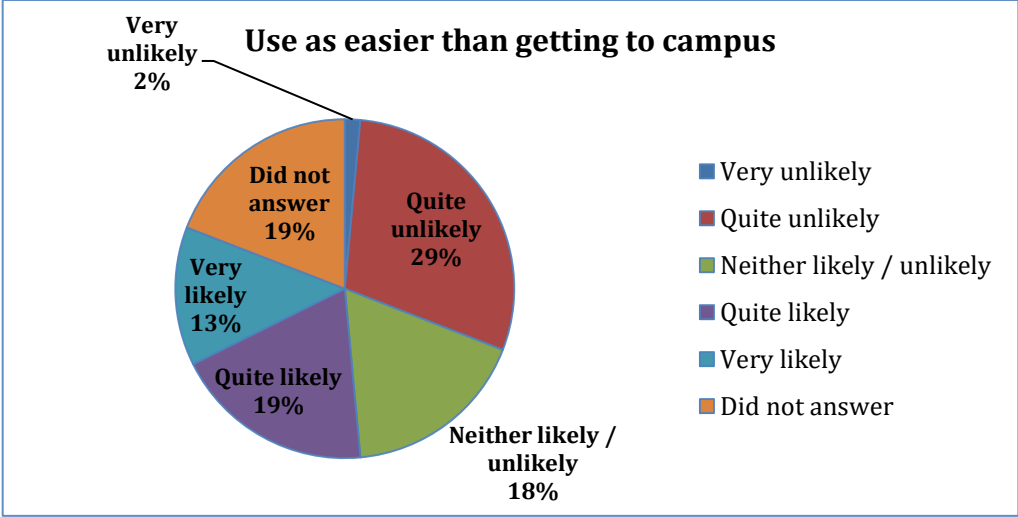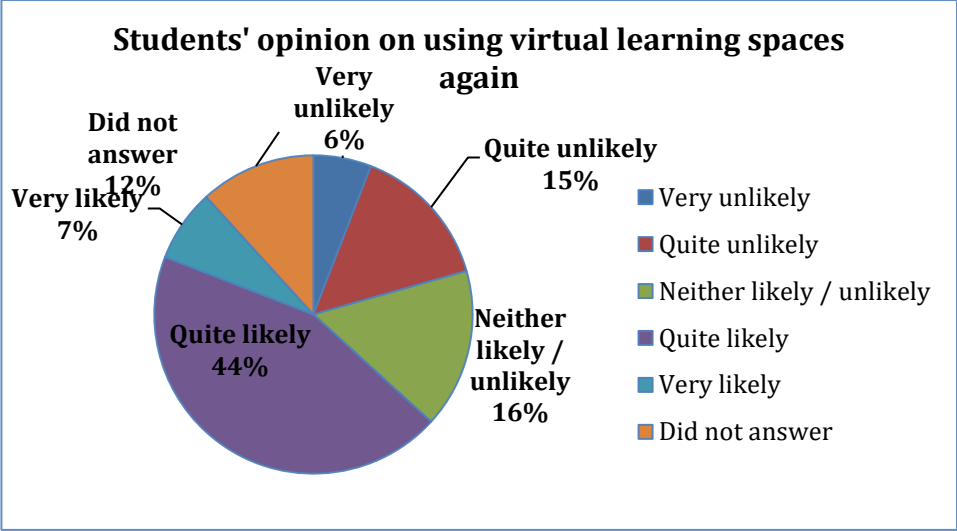
"As we prepare to return to campus, many of the technologies that helped us simply survive and sustain classroom continuity will become permanently embedded in our educational methods and play a pivotal role in the refinement of practices consistent with an ongoing shift to more student-centered learning".[4]

44% of students who took part in the Survey said they are **quite likely**, and **7%** they are **very likely,** to *use the virtual learning spaces again;* and **46%** said they would be **quite likely**, and **7%** were **very likely,** to **use the spaces *occasionally.***

They foresaw that they would use the virtual spaces as a *complement* to the library and Student Centre in particular circumstances:

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7 Reimagining Higher Education: The Post-Covid Classroom, Rob Curtin, *Educause Review,* 6 April 2021

Students' opinion on using virtual learning spaces again

- Very unlikely 6%
- Quite unlikely 15%
- Neither likely / unlikely 16%
- Quite likely 44%
- Very likely 7%
- Did not answer 12%

Legend:
- Very unlikely
- Quite unlikely
- Neither likely / unlikely
- Quite likely
- Very likely
- Did not answer

Use as easier than getting to campus

- Very unlikely 2%
- Quite unlikely 29%
- Neither likely / unlikely 18%
- Quite likely 19%
- Very likely 13%
- Did not answer 19%

Legend:
- Very unlikely
- Quite unlikely
- Neither likely / unlikely
- Quite likely
- Very likely
- Did not answer

Use when not in the UK

- Very unlikely 7%
- Quite unlikely 5%
- Neither likely / unlikely 16%
- Quite likely 37%
- Very likely 16%
- Did not answer 19%

Legend:
- Very unlikely
- Quite unlikely
- Neither likely / unlikely
- Quite likely
- Very likely
- Did not answer

i. **Out-of-hours**

Students said they would tend to use the physical library while *on campu*s, but that they would make use of the virtual spaces "*out of hours… at home as it's nice to take part in and have accountability*." Another said that *"after the pandemic, I think that virtual learning spaces should be maintained but during different hours like evenings or nights"* or "*maybe at weekends or if there were not enough rooms in the library to book, like during exams*" but "*popularised [advertised] more".*

The cohort of Institute of Education (IOE) PGDR students said that "*as they are all scattered around the UK, it would be useful to have the VLS available…as they are not often on campus.*"

ii. **Exam season**

While students largely preferred to use the on-campus libraries or Student Centre, "*during exam season [and in] the Student Centre, specifically, getting a library space was a big problem as unless you were there at 8am you would just not get a space*". So, maybe, online spaces are "*a good alternative*" for those times.

iii. **Commuting**

One student anticipated that post-lockdown some students will be working from home more even when libraries re-open so would use it on days when they did not need to be on campus and "*don't feel like commuting*."

Use as will save long travel / commuting time

Very unlikely 9%
Quite unlikely 9%
Neither likely / unlikely 20%
Quite likely 28%
Very likely 15%
Did not answer 19%

- Very unlikely
- Quite unlikely
- Neither likely / unlikely
- Quite likely
- Very likely
- Did not answer
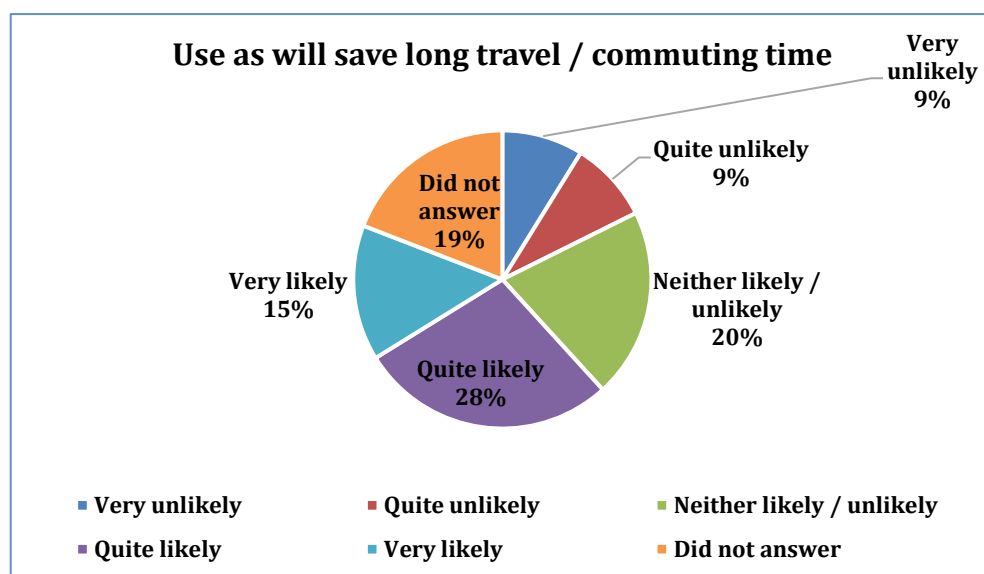
iv. **Alternative spaces for group work**

Students liked the idea of using virtual spaces for group or project work as it could "*be hard to organise a whole group to come to the same space at the same time.*" In this case, they considered that features like break-out rooms, screen- and file-sharing, that support group work, were important as they enable more effective working than "*everyone crowding around a computer.*" They also said it was valuable to be able to attend a repeat revision session or watch a recording.

v. **As an "add on"**

One student said that increased use of virtual technology during the year had meant students had benefitted from lectures delivered "*from around the world – the US, Greece - which we would not have been able to listen to without these platforms* ", so saw benefit to them as "*an add on*".

vi. **Other reasons**

One student also expressed concern about any returning coronavirus risk as a reason that s/he would like to see the availability of virtual spaces extended This was reflected by a PGDR student at the IOE who said that she wanted to minimise travel now that lockdown was easing. Another, perhaps not acclimatised to English weather said the virtual study rooms would a helpful option, "*when it was also raining a lot*".

5. Recommendations

"I think virtual learning environments are ace - they have been a boon to me, and I hope that UCL will continue to facilitate the provision of those spaces."
- Post-doctoral research student at UCL Institute of Education

Students who took part in the Survey and Focus Groups had found value in the virtual common rooms, revision spaces and virtual learning spaces for connecting, group work and social interaction. They wanted to see the creation and management of long-term Virtual Learning Spaces for Students that enable the four principles of connecting to others; ideas; oneself and with UCL within a *blended* on-campus

approach that offered virtual spaces as a *complement*. The following are recommendations that would enable this:

i. **Encouraging uptake and participation**

Students said that "*the rooms only work if there are enough people in them*" and "*if people have their cameras on*". Focus Group participants said that the times they had visited the Virtual Learning Spaces during the pilot there simply were not enough people in the virtual room to make it feel like a library. The optimal seemed to be enough people with their cameras on or a profile picture to fill up the tiles of the first screen without having to scroll. Ways in which uptake and participation could be encouraged include:

a. **Cameras**

While internet or laptop capacity issues were often a reason that participants kept their cameras off, students wanted there to be an expectation that students entering the virtual learning spaces would turn their cameras *on* as this helped with focus. They suggested replicating the Teams classroom setting rather than the [Zoom] gallery view "boxes".

b. **Profile pictures and avatars**

Students who are not able to have their cameras on – which was often due to insufficient internet connectivity or broadband width – need to be enabled to have a profile picture or a 3D avatar.

c. **Seeding**

Recommendations made by students to encourage others to show presence included *"a couple of staff… [logging] on and [turning] their cameras on. So, cameras wouldn't have to be on constantly - just enough to pressure others to turn on theirs*".

ii. **Developing virtual "etiquette" code**

As previously discussed, students felt that encouraging participation and visibility or presence in the virtual learning spaces could be encouraged by developing a code of "virtual etiquette". Included in the code could be:

a. **Written guidelines**

Etiquette for a particular session i.e. whether camaras were required to be on or off, microphones on or off, could be set out in some written

communication in the waiting room or "Enter here" pages so that it "*becomes the norm behaviour.*" In the case of the Gather.Town trial piloted by the Department of Applied Psychology, Daniel Richardson said that "etiquette" was that participants had their camera on and interactivity in seminars was expected, although students were able to indicate in advance if they were willing to talk about their questions during a session.

b. A non-judgmental space

Students said that any guidelines could make it clear that spaces are "*a non- judgmental space and nothing will be reported to back to moderators because maybe that's what people got scared of and it hadn't been made clear before the session*".

iii. Encouraging good study habits and self-care

Along with etiquette, one post-graduate doctoral research student who had eventually set up an informal monthly writing group at which they shared their goals and kept each other accountable expressed disappointment that the virtual study rooms set up for IOE post-graduate writing students "*didn't work.*" Another PGDR student in a different Focus Group put this down to people thinking that "*technology [the virtual space] will fix the problem for me*" but later finding that all the same problems of motivation and discipline were still present. S/he suggested that *"maybe it's putting in those other things – reminding people to take breaks, links to how to get back on track with study routines"* that were more important that the technological solution or space itself.

iv. Promoting synchronistic and informal encounters

Students liked the possibility of synchronistic connections and informal networking that virtual spaces do not always provide. As one student said, I had hoped that using the rooms would put me *"in a better headspace to work but didn't as I was still in my room."*

One option could be to provide a "skin" or "wrapper" around the Virtual Learning Spaces that would allow students the same feeling of meeting in the quad or informal spaces to chat and meet each other before going into the on-campus library or Student Centre. Options for this wrapper could include Koko ([www.koko.ai/*)*](www.koko.ai)or Gather.Town (www.gather.town/) both of which have been trialed in UCL faculties. In the case of Koko, this consisted of a virtual

classroom and several small study rooms. Students entered the Zoom classroom via Koko which they described as helping to create "*a feeling of belonging that we are studying on the campus*". Tutors also entered the Zoom classes via Koko thereby allowing students to opportunity to connect with them informally. Gather.Town replicates a 1990's video-game with a pixelated map and different areas. In this case of its use in the department of Applied Psychology, the areas included recorded video footage of the roads around the UCL campus, a park, a backdrop of UCL main quad and spotlight features where students could gather and interact, including talk, with each other. Like Koko, the platform interfaces with Zoom, so teaching or study sessions would begin in the space with formal sessions delivered via Zoom. Post lecture, students could congregate again in Gather.Town enabling post-lecture or study interaction and conversation. It also allows small interactive break-out sessions in different spaces – features students said they would like to see in any long-term Virtual Learning Spaces – such as statistics classes in different classrooms and other interactivity including white boards, shared documents, and chess games.

Professor Richardson who piloted it in his department said he maintained office hours in Gather.Town so students could see if another student was already in the office and wait outside rather than "barging into" a Zoom room. This reflected the views of students in the Focus Groups who said that they did not know who was in the Virtual Learning Spaces until they actually went into a room (and then sometimes there was no-one there).

v.   Feedback loops

Students found that virtual spaces worked best when lecturers or staff set up the groups for Students (in the virtual revision sessions that were arranged on Moodle, one had a moderator and one which did not). If a student logged on and there was no-one in the room, the lecturer or moderator would get a notification so they could reach out to students advising them of other dates and times when they would be there – thereby establishing a *"feedback loop" which encouraged participation and attendance – a virtuous circle of returning users."* In the case of Library Services, Library Assistants might connect with students who logged on a virtual learning spaces to find out how their session was and tell them about other sessions – for example, social or breaktime

sessions, if available.

vi. Promoting the spaces

Students felt that the virtual spaces would have been used more if they had been publicised better. Recommendations on how this might be improved include:

a. Email

Students remarked on "email overload" in the last year saying that, "*overall… it's too much… I remember getting lots of emails about it, but I just scanned and glanced and thought I won't look at that for now"*. Students preferred *departmental* and faculty rather than student social emails as "*in the departmental emails, there is normally some very useful information.*" Email, however, needed to be "*shorter and clearer"* with the subject e.g., "Virtual Learning Spaces" in the contents and a link to the relevant information.

b. Word-of-mouth

Students said they thought that virtual learning sessions would be better promoted by word of mouth. For example, by a lecturer who might say, "*hey, next Thursday I'm going to pop into the virtual learning space*" as they had missed this informal interaction with academic staff. One said that virtual fire-side chats promoted by one department, "*if they had happened earlier and weekly would have been really useful as by end of term, you'd have met all the lecturers.*"

c. Moodle announcement banners

Students also suggested," maybe *when you log into Moodle if there was a banner or something saying, 'click here'. So that it's not just promoted through emails.*" One student said that she found it particularly helpful to have Q&As for revision session and seminars on Moodle as each of the modules showed a schedule with a day, time and session name (which can be configured with Google calendar). Without this scheduling facility s/he had sometimes missed a session.

d. Social media

Students also wanted to see promotion of the spaces on university social media platforms such as Instagram.

Considerations in rolling out virtual study spaces

"While the adaptation to new technology and remote ways of teaching and learning was 'heroic'…this shift to what is now generally recognized as 'remote learning', while very impressive, has proven to be no replacement for the campus experience that so many students covet. Many learners had challenges with accessibility, inclusion, and engagement. We were reminded that the digital equity gap unfortunately persists—and has continued to widen—during the pandemic. We experienced increased fatigue from staring at "squares-on-a-screen" and feared, or maybe even chuckled at, our virtual classes being "bombed" by outsiders."[8]

i. **Balancing safeguarding protocols with freedoms**

Because on-camera presence and interaction were considered essential to the success of a Virtual Learning Spaces, thought would need to be given to how to promote "agency" amongst students who, prior to coming to university, would most likely never have participated in interactive online sessions in which cameras would have been *on*, due to under-16 safeguarding requirements.   Although one postgraduate doctoral research student felt that attendance at a Zoom or virtual space should be approached in the same way as going to an on-campus lecture or space, young students can still feel embarrassed in front of the camera without, say, their make-up on. They need to be guided into what constitutes online behaviour as an adult.

One PGDR student said. "*I don't know who is behind the computer. I like to see who I am talking with. We are all tired of this situation with the pandemic... we need social interaction. I feel then that the other person is not interested in being in this context. But I know it's tricky as not all people feel comfortable with the camera.*"

However, another in the same group said s/he felt it was "*different strokes, different folks, I believe...it perhaps depends on the aims of the individual session. If there is a teaching component, cameras should ideally be on. For writing [studying], I don't think there should be pressure around it. It's an interesting one, as a teacher, I balk at the cameras being off, for sure. For co-studying, I don't think it should be obligatory. I wouldn't have persisted with the writing retreats if I had to have my*

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[8] Reimagining Higher Education: The Post-Covid Classroom, Rob Curtin, *EduCause Review*, 6 April 2021

camera on. My PGTA role and other work mean I'm online incessantly. I feel I need a reprieve on occasion and leaving the camera off gives me that 'breather' - I never intend it to be rude or antisocial."

ii. **Online safety**

Some students said they found it "*creepy*" and felt resentful, particularly in moderated sessions, when others did not have their cameras on. A small percentage of students who completed the Survey also said that they didn't like the idea of getting messages from people they don't know.

This is particularly pertinent for open-access, cross campus/faculty virtual library spaces where students do not know each other. *uicsa*[9], the member-led professional body for digital practitioners within education, has found that "ethnic minority and female students experience the more harmful forms of online harassment in comparison to their peers. Disabled students and those from underrepresented racial/ethnic groups are more likely to be harassed on institutional platforms than their peers." One Focus Group student themselves from ethnic minority, said this would be a particular problem if the camera-off culture persisted as they "*had no idea who was behind the camera*" or even why a person was in the space.

In these cases, encouraging the use of the "chat" function in room where students remained unwilling to be persuaded to, or could not, use their cameras (due to bandwidth or internet access), would be helpful.

iii. **Moderation of spaces**

65% of students who had completed the Survey said that they liked having, or the option of having, a Library Assistant in the space. While one student said it was "*good to struggle sometimes or nice to have a space to feel stupid with someone else if you're not getting the questions*", students in Focus Groups also said that moderated sessions tended to work better. As the Virtual Learning Spaces for Students pilot was a limited daytime hour, weekday-only trial if the rooms were rolled out as a permanent feature, how feasible is it to moderate rooms on 24/7, 365 days?

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[9] [Who is getting hurt online?](), *uicsa*, July 2021

iv. **Accessibility**

Accessibility is a key feature of any service offering. Things to consider when making any virtual learning space accessible are:

a. **Technology**

The Faculty Learning Technologist (FLT) Lead in Social and Historical Sciences told us that it was not just access to technology that was important but access to the *right* technology. For example, new students (particularly first-generation entry students) are told they need a laptop for their course but not what *type* of laptop. Having laptops to borrow through the University, or knowing who to ask for help, would therefore be important.

b. **Understanding of learning differences**

The FLT interviewed also noted that learning differences may not have been apparent before students arrived at university. Both verbal and written instructions, for example around room etiquette, would be important.

c. **Broadband and internet capability**

19% of students who answered the Survey said that they did not use the VLS because their broadband or internet connection was too slow or unstable underpinning the importance of a "blended approach" on campus and virtual study offer.

d. **Noise and outside interruption**

Students living at home do not always have spaces conducive to homeworking, even virtually. One work-from-home study recently found that a young employee in a shared house was working in a cupboard. Likewise, noise can prevent students from fully participating in virtual sessions. During this study, building works prohibited one student from joining one of Focus Group sessions, and a barking dog briefly interrupted another session. So, it would be important for students to be able participate using only the "chat" function if they could not have their microphones on.

When asked about accessibility for his Gather.Town project in the Department of Applied Psychology, Professor Richardson said that "*it is hard to see how one could or would enable full-access as the platform is multi-sensory*".

Instead, all formal lectures (anything examinable) were offered via Zoom while none of the activities that took place in the outer Gather.Town space would ever be examinable. In terms of Virtual Learning (Library) Spaces it would be important that students who may not be able to access a virtual space could always have access to a physical one.

6. Conclusion

An EIU report produced in 2020[10] found that "one of the biggest factors that influences student engagement and performance is their sense of belonging in their higher education experience. This is what has suffered the most as a result of COVID-19. Without a strong sense of community, students are struggling to keep up academically."

Students' overall preference is for an on-campus, in-person experience as they felt that they had "*always had a more positive in-person experience*", so couldn't "*see virtual sessions being better*". However, overall, they saw definite advantages of the university continuing to offer the virtual spaces as part of a "blended approach".

> "I think the future is a mix of both... will work. Some of us like face-to-face. Some like myself who cannot come to campus like to meet others online so a blended would be a good approach in my opinion".

Students felt that virtual learning spaces can contribute to the "sense of community" and that the pilot was a great initiative by UCL in a difficult year when students were suffering social isolation and lack of peer-pressure motivation. With greater encouragement to make use of the spaces so that there were enough people in them and enough interaction – through use of cameras or profile pictures or avatars, chat function, as well as informal interactive areas – break out rooms and chat forums, they could and should form part of a "blended" physical on-campus and virtual offering by Library Services, faculties and departments.

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[10] Bridging the Digital Divide to Engage Students in Higher Education, *Economist Intelligence Unit (EIU) report*, December 15, 2020, pp. 9, 10

7. References

The following papers and articles are referenced in the footnotes to this report:

- Facilitating online casual interactions and creating a community of learning in a first-year electrical engineering course, *2017 IEEE 6th International Conference on Teaching, Assessment, and Learning for Engineering (TALE),* 2017-12, pp128-133
- Researching remote collaboration and connectivity tools among UCL-wide groups, Shaleila Louis & Roos van Greevenbroek, *SPiDER: Sustainable and Digital Places for Education*, 2021
- [Libraries are at the forefront of combatting loneliness and inequality](#)**,** Pamela Tullough, *The Big Issue*, No date
- [Libraries, archives and museums enable new forms of remote access in response to Covid-19 pandemic](#) , *Research Libraries UK (rluk.ac.uk)*, 2021
- Virtual Study Spaces, Sam Thornton, 24 Jun 2021, *Joint Information Systems Committee* (JISC))
- Reimagining Higher Education: The Post-Covid Classroom, Rob Curtin, *EduCause Review*, 6 April 2021
- [Who is getting hurt online?](#), *uicsa*, July 2021
- Bridging the Digital Divide to Engage Students in Higher Education, Emily Wasik*, The Economist Intelligence Unit (EIU)*, 15 December 2020, pp. 9, 10

8. Appendices

  i. Virtual Learning Spaces Survey

  ii. Virtual Learning Spaces Survey results

  iii. Participant Information Leaflet (Survey)

  iv. Participant Information Leaflet (Focus Groups)

  v. Focus Groups – Information Leaflet

  vi. Focus Groups – Questions

  vii. Focus Group transcription summaries

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