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**Supplementary Materials****Survey S1**

Please specify what cohort of students you currently belong to

- Level 1
- Level 2
- Level 3

**Infrastructure**

1. I have access to:
  - Laptop
  - iPad
  - phone
  - I do not have access to these
2. For study, I most commonly use
  - Laptop
  - iPad
  - Phone
3. The devices I mentioned in my previous answer are
  - Mine and I can always access
  - Shared with others but easy to access
  - Shared with others and difficult to access
4. I prefer using devices that are
  - android
  - apple
5. I can easily access
  - Canvas
  - Onedrive
  - MediaSite
  - Outlook Email
6. What type of internet connection do you use to access resources?
  - Home based high speed wi-fi
  - Public wi-fi
  - 3g/4g/5g personal Sim
  - 3g/4g/5g family Sim
7. Which of the following option/s is/are available to you when you study?
  - Quiet single room (home or student accommodation)
  - Quiet shared room (home or student accommodation)
  - Access to quiet library

None of these

8. Based on your previous answer, is the place

Always available

Occasionally available

Rarely available

**Opinion for online teaching**

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I feel nervous about not seeing teachers during term					
I feel nervous about accessing lecture material online					
I feel alone					
I do not know who to contact if I have a problem					
I feel scared about the pandemic and it distracts me from my studies					
There is no opportunity to talk to the lecturer					
I miss the support from my friends when studying in school					
I need pressure to study otherwise I would be too lazy to study					

Statement	Strongly Agree	Agree	Neu- tral	Dis- a- gree	Strongly Disa- gree
Learning at home is better for me					
I enjoy organising my time between study and hobbies					
I enjoy the flexibility of online teaching					
Teachers are always available to answer any question that I have					
It is easier to stop and start lectures than to be present in a lecture					
Online teaching allows me to easily look an answer up online if I do not understand.					

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I feel myself engage with the following activities					
Video lectures					
Live lecture					
Online discussion					
Online quizzes					
Group activites					
Face to face interaction					

**Student expectations of quality needs**

9. I prefer

- face-to-face teaching
- online teaching
- a mixture of both
- I do not mind

10. I prefer to have my lecture notes in

- PDF for online browsing and download
- PowerPoint slides for online browsing and download
- Word documents for online browsing and download
- HTMLS links for online content browsing

11. I prefer to have my lecture videos as (you can pick more than one option)

- through Canvas for online streaming
- through OneDrive available for download and online streaming
- Other please specify \_\_\_\_\_

12. I prefer that the video have (you can pick more than one option)

- the slides and the voice of the lecturer
- the slides and the video of the lecturer
- only the voice of the lecturer
- other please specify \_\_\_\_\_

13. I will be motivated to participate (you can pick more than one option)

- Online Quizzes
- Online Discussion forums
- End of week live sessions
- End of topic live sessions

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I would like to receive more support from teachers					
I would like to receive more feedback from teachers					
I would like to receive more material to support my learning in the form of quizzes and lecture notes					
Email is a convenient means to communicate with me					
I would like teachers to set more goals for me to work towards					
I would like drop in sessions with teachers to ask any questions that I may have					
I would like to be a part of a discussion forum to discuss problems with my peers					
I would prefer for lectures to be live rather than recorded					
I feel confident to use MS teams					

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
My internet connection allows me to access Canvas					
access OneDrive					
access MediaSite					
attend Live sessions					

14. Please provide any further recommendations that you think would support your learning online

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**Survey S2: Survey for "Non-engaging" students**

1. Have you found the transition to online learning via Canvas challenging?
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree
  
2. Are you familiar with Canvas and how to use it to engage in your studies?
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree
  
3. Do you experience difficulties attempting to log on to Canvas?
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree
  
4. Do you have access to a personal device for studying, such as a laptop, iPad, desktop PC?
  - Yes
  - No
  
5. Do you find that the Canvas interface works at reasonable speed to allow you to engage in your studies?
  - Strongly Agree
  - Agree
  - Neutral
  - Disagree
  - Strongly Disagree
  
6. How have you been accessing the relevant materials required for your course?

- Canvas
- Classmates
- Other

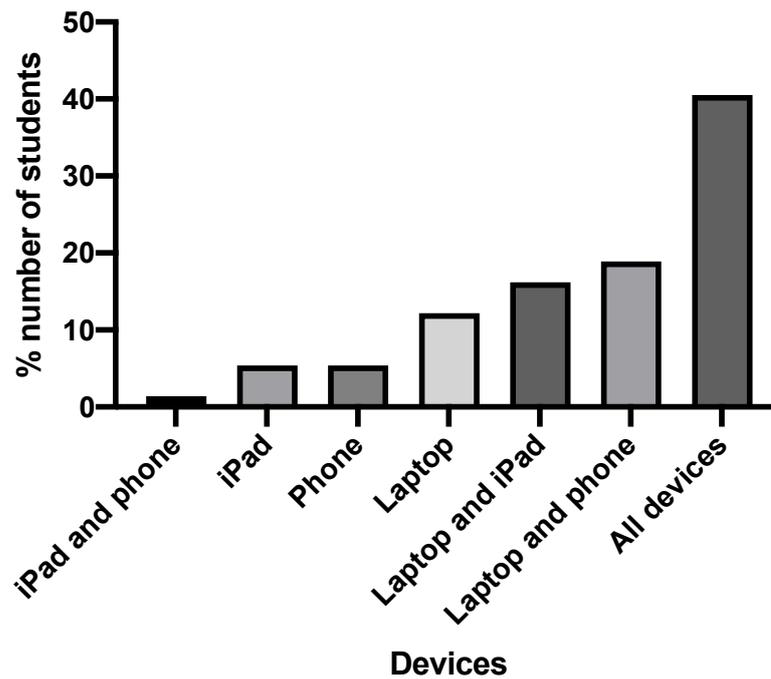
7. If you answered 'Other' for Q6, please provide a more full description

8. Are you having difficulties in managing your time and therefore have not been able to log on to Canvas to engage in the study materials

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

**Questionnaire S1: Focus group questions.**

1. What student cohort do you belong to?
  - Level 1 Pharmaceutical Science
  - Level 1 Pharmaceutical Biotechnology
  - Level 2 Pharmaceutical Science
  - Level 2 Pharmaceutical Biotechnology
  - Level 3 Pharmaceutical Science
  - Level 3 Pharmaceutical Biotechnology
2. What are the main difficulties associated with online learning?
3. From your experience, what are the advantages and disadvantages of face-to-face, online and hybrid learning?
4. What mechanism of teaching (face-to-face, online or hybrid) do you prefer and why?
5. Do you think Canvas is a useful tool for learning AND why?
6. Do you think Canvas discussions add value to the learning experience AND why?
7. What advice can you give to a peer who is NOT engaging with online learning?
8. Are you sharing a device (laptop, phone, iPad)? If yes, why?
9. When on campus, what WiFi do you use and why?
10. Do you prefer using iPads over laptops for study? If yes, why?
11. Any other comments?



**Figure S1.** Percentage of students who have access to different devices that can be used in online learning environment, where  $n = 74$ .

**Table S1.** Students' accessibility to online teaching platforms offered by the university. Data are presented as count and percentages where  $n = 74$ .

<b>I can easily access (you can pick more than one option)</b>	<b>Count</b>	<b>Percentage</b>
<b>Canvas and Microsoft Software (MS)</b>	45.0	60.8
<b>All tools</b>	15.0	20.3
<b>Canvas only</b>	5.0	6.8
<b>Outlook Email only</b>	4.0	5.4
<b>Microsoft Teams only</b>	2.0	2.7
<b>I have not tried to access all of these options</b>	2.0	2.7
<b>Canvas and Mediasite only</b>	1.0	1.4
<b>Total</b>	<b>74.0</b>	<b>100.0</b>

**Table S2.** Students' accessibility to a quiet study place. Data are presented as counts for always available, occasionally available and rarely available, where  $n = 74$ .

<b>Which of the following option/s is/are available to you</b>	<b>Count</b>	<b>Percentage</b>	<b>Always available</b>	<b>Occasionally available</b>	<b>Rarely available</b>
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when you study? (you can pick more than one option)

<b>All options</b>	32.0	43.2	20.0	12.0	0.0
<b>Quiet shared room (home or student accommodation)</b>	23.0	31.1	21.0	2.0	0.0
<b>Rooms but no library</b>	8.0	10.8	2.0	6.0	0.0
<b>Quiet single room (home or student accommodation)</b>	5.0	6.8	2.0	2.0	1.0
<b>Access to quiet library</b>	5.0	6.8	3.0	2.0	0.0
<b>None of these</b>	1.0	1.4	1.0	0.0	0.0
<b>Total</b>	<b>74.0</b>	<b>100.0</b>			

**Table S3.** Students' perceptions of levels of motivation and feedback obtained from various online learning activities. Data are presented as counts and percentages where  $n = 74$ .

<b>The following activities motivates me to study (you can pick more than one option)</b>	<b>Count</b>	<b>Percentage</b>	<b>I would like to receive more support and feedback from lecturers via</b>	<b>Total picks</b>
<b>All</b>	32.0	43.2	Video recording	46.0
<b>Online Quizzes</b>	25.0	33.8	Written text	41.0
<b>Online Discussion forums</b>	9.0	12.2	Group communications	25.0
<b>End of topic live sessions</b>	3.0	4.1	Face-to-face contact	23.0
<b>Both online activities</b>	2.0	2.7	One-to-one communications	19.0
<b>Both live activities</b>	2.0	2.7	Voice recording	17.0
<b>End of week live sessions</b>	1.0	1.4		
<b>Total</b>	<b>74.0</b>	<b>100.0</b>		

**Table S4.** Students' preferences for the delivery method of materials. Data are presented as counts and percentages where  $n = 74$ .

**Lecture videos platform**

<b>I prefer to have my lecture videos as (you can pick more than one option)</b>	<b>Count</b>	<b>Percentage</b>
<b>through Canvas for online streaming</b>	45.0	60.8
<b>through OneDrive available for download and online streaming</b>	19.0	25.7
<b>Both</b>	9.0	12.2
<b>Mediasite</b>	1.0	1.4
<b>Total</b>	<b>74.0</b>	<b>100.0</b>

<b>Lecture notes</b>			<b>Video presentations style</b>		
I prefer to have my lecture notes in	Count	Percentage	I prefer that the video presentations have (you can pick more than one option)	Count	Percentage
PDF for browsing and download	35.0	47.3	the slides and the voice of the lecturer	30.0	40.5
PowerPoint slides for browsing and download	32.0	43.2	the slides and the video of the lecturer	29.0	39.2
Word documents for browsing and download	7.0	9.5	Students accepting both above options	15.0	20.3
HTMLS links for online content browsing	0.0	0.0	Other	0.0	0.0
<b>Total</b>	<b>74.0</b>	<b>100.0</b>	<b>Total</b>	<b>74.0</b>	<b>100.0</b>