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## Student satisfaction with online academic skills session during the pandemic

Sheryl Mansfield

*University of Northampton, United Kingdom, sheryl.mansfield@northampton.ac.uk*

Samantha King

*University of Northampton, United Kingdom, samantha.king@northampton.ac.uk*

Paul Rice

*University of Northampton, United Kingdom, paul.rice@northampton.ac.uk*

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## Student satisfaction with online academic skills session during the pandemic

### Abstract

During the Covid-19 pandemic, the University of Northampton changed its usual mode of delivery from face-to-face to online. This may have involved less adjustment than in other institutions as, pre-pandemic, the university already made use of active blended learning using its virtual learning environment. To capture the student voice concerning satisfaction with this change of mode, professional service teams surveyed students attending embedded academic skills and information literacy workshops. The number of students completing the survey was 385 and overall, students were satisfied with online learning. Nearly two-thirds of respondents listed specific advantages and challenges of online learning. The most frequently mentioned advantage was convenience: being at home; the greater ease of combining study with work or home life; and reduced traveling saving both time and money. Other advantages were the improved quality and functionality of the online sessions, and positive motivational/affective factors. The most common challenge was issues with technology. Other challenges were negative motivational/affective factors, with students reporting lack of concentration and that the sessions were impersonal. A significant challenge was a perceived lack of communication between both students and lecturers, and students and their peers. Age was found to be a salient factor with students over the age of 30 markedly more positive about online learning than their younger peers. Concerns for practitioners in moving to online learning would be around ensuring students have access to the appropriate technology and finding ways to improve communication online. However, with appropriate planning, future provision may benefit from the advantages that online learning affords.

### Practitioner Notes

1. The majority of the participants of the study enjoyed online learning and listed more advantages than disadvantages to the mode of learning this mode of delivery of academic skills session could benefit as an alternative to face to face sessions in the future.
2. Over a third of positive responses outlined that the quality of the learning improved using online teaching. This comes with the caveat that the sessions need to be active and interactive.
3. Using technology is always going to be at the mercy of the connectivity and skill set of the participants. It is important to invest in the resources and embed digital literacy in the culture of the institution.
4. The research suggests that the older you are the more likely you are to prefer online learning because of convenience this knowledge could be useful when designing content for programs with this type of learner.
5. Those that offered negative responses to the mode outlined lack of face to face contact, distractions from being at home and poor concentrations as factors. Therefore, more needs to be done if this mode is used in terms of informing students of best study practices when working online.

### Keywords

Academic Skills, Online Learning, Satisfaction

## Introduction

Academic skills and information literacy in higher education enable learners to become sophisticated consumers and producers of information (UNESCO, 2017). It is therefore important that institutions provide support and guidance on information literacy as they provide students with fundamental skills to succeed in higher education (Blythman & Orr, 2005, p.237; MacVaugh, Jones & Auty, 2014, p.756). In the UK, professional services teams (Learning Development and Academic Librarians) provide this type of support (Ooms *et al.*, 2013) and deliver skills which cover a range of topics from time management (Price & Maier, 2007, p.23), referencing (Hitch *et al.*, 2012, p.33), to critical thinking and writing (Gunn *et al.*, 2011, p.1). Research has explored the need for this type of provision and concluded that it is better suited when embedded into the curriculum (Munn & Small, 2017).

At the University of Northampton, our academic skills and information literacy provision is integrated into each programme. The University of Northampton is classed as a post-1992 institution and is situated in the East Midlands of England. The University attracts a wide demographic of students in age and ethnicity and is proud to possess the widening participation ethos. The University of Northampton moved to Waterside in 2018, a purpose-built campus designed to adapt to 21<sup>st</sup> century teaching and offering versatile learning environments. At this point, the pedagogical approach also changed, and the institution adopted Active Blended Learning (ABL) to promote student engagement and employability (Armellini *et al.*, 2021). In this approach, 'active' refers to the use of activities which are interactive and engage students in the learning process, while 'blended' refers to the combination of face-to-face synchronous activities with asynchronous online activities. ABL can therefore be defined as a student-centred method to develop knowledge, understanding and digital literacy (Powers & Cole, 2017, p.668) which encourages students to be productive members of the learning community (Institute of Learning and Teaching in Higher Education, 2017). Sessions delivered by Professional Services were guided by ABL principles and had a synchronous and asynchronous element to the teaching in line with the institution's pedagogical approach. This approach allows tutors to design effective online content mastering the use of active learning to engage students in the process (Prince, 2004) and uses a range of methods to maintain the active learning environment within the sessions. The online activities are available to students via the university's virtual learning environment (VLE). The institution invests in this approach by equipping each student with a laptop at enrolment; helping to reduce barriers with this mode of delivery. The academic skills and information literacy sessions are delivered after consultation with the subject teaching team as to where these sessions are most appropriate and taught face-to-face in a workshop format by Professional Services staff (Murray & Nallaya, 2016, p.1299; Encheva, Tammara & Kumanova, 2020, p.131).

When the global pandemic occurred, many institutions were forced to rethink their practices (Stewart, 2021). However, as the University of Northampton was already using the ABL approach, the switch to online felt seamless (Howe, 2020). The Professional Service workshops continued to use the ABL approach; however, the synchronous delivery was no longer taught face-to-face on campus, but was taught online. Blackboard Collaborate was used for all synchronous delivery, a video conferencing platform which is integrated with the VLE and provides the facility for the students to meet in small groups in 'breakout rooms', to communicate via a 'chat' facility and to raise their hand to attract the attention of the lecturer. Practitioners were not used to delivering the

professional service synchronous workshops online, in addition to the asynchronous content, and the teams reflected on student satisfaction with online delivery and wanted to formally evaluate the sessions to shape future practice. Although the effectiveness of online learning has been extensively investigated and reported in the literature, the effect on student satisfaction is less well explored.

Delivering sessions online is by no means a new phenomenon and synchronously offering academic skills is no different (Silburn *et al.*, 2012). As the definition of online learning is ambiguous it is important to express our use of the term. Singh and Thurman's (2019) systematic review highlights that online learning is often defined as involving technology, a time element (synchronous or asynchronous) and other synonymous terms. Our definition links to this as we embrace both synchronous and asynchronous elements in the delivery and use different technology to broadcast the content. Institutions were left with little alternative than to deliver content in the global pandemic using online platforms (Ali, 2020; Dhawan, 2020), leaving little time for adjustment for both the students and staff. Having delivered previous synchronous sessions online, the teams were aware of the needs to engage students and scaffold content in this new environment. The team designed for the online learning environment using the nine online learning design dimensions: modality, pacing, student-instructor ratio, pedagogy, instructor role online, students' role online, online communication synchrony, role of online assessments and sources of feedback (Means *et al.*, 2014, p.27). The teams used the six months from the start of the UK government restrictions to peer review and design active online sessions ready for the start of the 2020 academic year which were used in the study. Each session delivered was approximately an hour and was integrated into the relevant module of each programme on the VLE. Sessions could be recorded, and the students were able to retrieve the recordings via their module site. Depending on the content of the session, an asynchronous element was used to engage the students in a pre-learn activity uploaded a week prior to the synchronous session. This enabled the content to be digested and then discussed at length in the online session. Typical sessions included an interactive starter activity, main content: split into digestible chunks and time given for exploration of the information through discussion in the chat or within breakout rooms and plenary. These sessions mirrored the previous face to face delivery, however active online content was produced to enable discussion and facilitate active learning in the online environment. A range of technology was used to facilitate the active content, including Xerte, Padlet, Google Docs, Wordwall, Mentimeter and Kahoot. The purpose of the study was not to evaluate the different technologies used in the session but to evaluate the provision using a solely online delivery, capturing the student voice concerning their satisfaction with the mode. In the sections that follow, we outline the previous literature discussing the pitfalls and benefits of online delivery and how online is intertwined with technology. We then explain the methodology before presenting and discussing our key findings.

## **Literature review**

Delivering learning online is complex; experiences online are unlike face-to-face contact (Kaufmann & Buckner, 2019). Dhawan (2020) proclaimed that online learning during the pandemic was unengaging due to a lack of personal attention and interaction, equating online teaching to emergency remote teaching (ERT). However, Hodges *et al.* (2020) assert that providing temporary access to instruction which is ERT is different to planned online teaching. Therefore, caution needs to be taken when comparing this mode of delivery to online learning. In general, online learning has been designed and requires an infrastructure that complements the use of this type of delivery (Hodges *et al.*, 2020). This study uses online teaching, not as an emergency remote teaching

response, but as a structured, planned approach to deliver content. ERT fails to capture these characteristics and therefore any literature using ERT (Crick et al., 2020; Rahlem, 2020) and the impact of the delivery needs to be digested with that in mind. Stewart (2021) proclaims that ERT is not an ideal research setting, neither is it one which should be used to teach distance learning. The following issues of interaction, flexibility, technology, and distractions have been synthesised in the literature to offer some context to this research.

### ***Interaction***

Faize & Nawaz (2020) agree that the interaction between instructors and peers are significant factors in satisfaction when learning online. Therefore, building a rapport within the teaching environment can help achieve positive outcomes (Frisby and Martin, 2010). However, these interactions are different in the online environment and need to be adjusted. Offering positive instructor communication to connect with students can mitigate isolation and loneliness online (Kaufmann & Buckner, 2019a). The use of small talk can also have a positive impact on the learning experience (Mak & Chui, 2021). Interactions are required in the online environment, and it is important to ensure these are planned within the session. The session should not be a transmission of content to a passive audience but one in which students actively participate.

### ***Flexibility***

Although there are positives and negatives with any mode of delivery, the flexibility and convenience linked to online teaching are appreciated by students (Kim, Liu & Bonk, 2005; Faize & Nawaz, 2020). Abdelaziz et al. (2011) compared online learning versus classroom learning for nursing students. This study defined an e-learning package as “online learning” and is relevant to the asynchronous activities in the current study. The level of satisfaction with online learning was higher and students would only opt for traditional methods if they were not given resources (a computer and internet connection) to complete the learning at home. Similarly, Kim, Liu & Bonk (2005) found that 60% of students stated flexibility as the most important benefit to an MBA online programme as they were juggling parental and work responsibilities. The MBA course was taught online using various elements of engagement with students. Flexibility for students has been associated with asynchronous resources as they offer a self-directed approach to learning which some students prefer (Hao, 2016). In some cases, online delivery has also demonstrated high levels of cognitive activity and process equal to, or superior to those generated in the traditional classroom (Heckman & Annabi, 2005). The flexibility this mode provides is one of the greatest benefits of online delivery.

### ***Technology***

However, connectivity and technology are issues which plague online delivery. Kaufmann & Buckner (2019b) stressed that the learning management system is fundamental in understanding online delivery. Students need ongoing support to use the technology to engage in the learning process (Bond & Bedenlier, 2019). However, research has shown if these barriers can be overcome the online environment is viewed more positively. Crick et al. (2020) identified that students who had prior knowledge of technology, were prepared for a shift to online teaching. Learning outcomes improved in the online environment if students were able to adapt quickly (Abdulrahim & Mabrouk, 2020). Stewart's (2021) global review of literature confirmed that positive experiences were reported

for students who were digitally literate and flexible. Nevertheless, the most reported problems in online learning are connectivity and lack of resources (Faize& Nawaz, 2020).

### ***Distractions***

Stewart (2021) postulates that when face-to-face content is transferred to online delivery it creates distractions, especially difficult when students have caring responsibilities and dependents at home. In addition, online teaching requires more focus, and can be more tiring and time consuming than classroom-based interactions (Bryson & Andres, 2020). Rahiem (2020) agreed that students’ online experience sometimes made students feel more exhausted than the traditional face to face approach. Students’ issues with distraction need to be considered when online resources are created.

### **Methods**

The core premise of this research was to ask students about their learning experiences within an online context in terms of accessing materials, usefulness of the sessions, and the challenges and advantages associated with all sessions moving online. Since the study design concentrated on understanding the complex nature of the student voice and the multiple experiences of students, an interpretative epistemological approach was adopted (Hammersley, 2013). The questions were devised after a pilot survey and amended to suit the qualitative nature of the inquiry. The online survey asked both Likert scale and offered opportunities for open responses from students allowing student narratives to be used in thematic analysis. The advantage of this approach was that a deeper understanding could be gained of the students at a local level (Tashakkori & Creswell, 2007), while retaining the ability to promote a naturalistic generalisability of our results (Smith & Sparkes, 2017).

All students who had attended an online workshop facilitated by Learning Development and Academic Librarians from October 2020 until December 2020 were invited to complete an online survey. Feucht et al. (2017) observe that self-report surveys are an established method for evaluating epistemological beliefs. Through this convenience sampling, 385 responses were received, with participants from both undergraduate and taught postgraduate programmes across all faculties at the University of Northampton (see table 1). It was deemed appropriate to survey all students regardless of the faculty, programme and level as the different content being delivered was not the focus of the research instead it was the mode of the delivery.

**Table 1.**

*Number Of Students Broken Down By Faculty And Level Of Study*

<i>Faculty/level</i>	<i>Level 4</i>	<i>Level 5</i>	<i>Level 6</i>	<i>Level 7</i>	<i>Total</i>
<i>Art, Science &amp; Technology</i>	25	6	14	3	48
<i>Business &amp; Law</i>	31	13	12	0	56
<i>Health, Education &amp; Society</i>	124	81	37	31	273
<i>Total</i>	180	100	63	34	377

The survey consisted of ten questions which allowed students to self-reflect on their own online learning experiences; six closed questions asking students to agree or disagree with statements using a five-point Likert scale, and four open ended questions. This paper considers students responses to three questions relating to satisfaction.

- I enjoy learning online. (1 = strongly agree to 5 = strongly disagree)
- What were the advantages of the session being online?
- What were the challenges of the session being online?

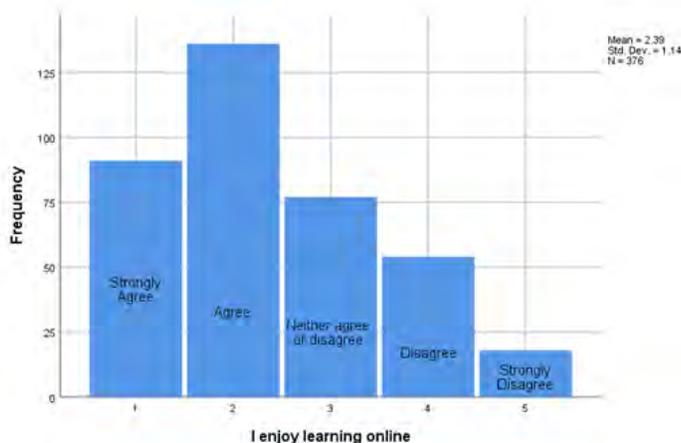
Data resulting from Likert style questions were entered into SPSS V26 and analysed by means of descriptive statistics and analysis of variance. The remaining two questions were open-ended and therefore more qualitative in nature, and asked students to comment on the advantages and challenges of online learning. These more qualitative responses were analysed using thematic analysis. Initially, open-ended comments were densely coded using NVivo v.12 software by one researcher. These narrow codes were then collated into broader categories by the research team using an inductive approach. This process was performed as a team to try to minimise the effect of individual researcher bias although it must be acknowledged that interpretations are inherently subjective. This integrated design allowed for patterns in the data to be identified while providing understanding of why those patterns occurred.

## Results

The first element of this section is to address student responses to the statement “I enjoy online learning”. Results are analysed and then further illuminated by responses to the open questions exploring the advantages and challenges of online learning. In total, 376 students responded to the statement, and it was encouraging that three times as many students reported enjoying online sessions (strongly agree or agree) as reported not enjoying them (disagree or strongly disagree) (60% compared to 20%, see figure 1).

**Figure 1.**

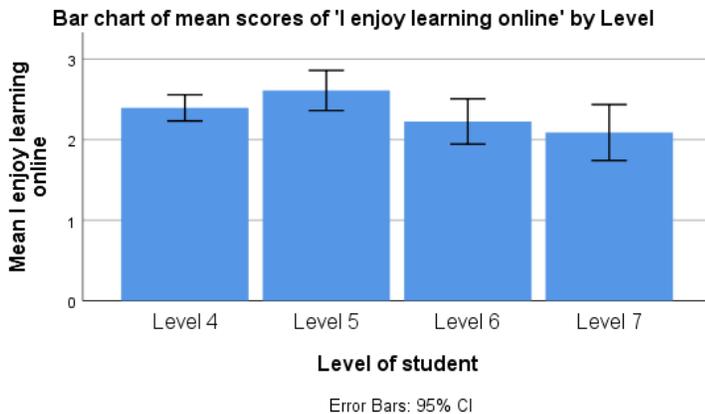
*Student Reactions To The Statement “I enjoy learning online.”*



Initially, the research team was concerned that level of study would be a factor in determining students' responses to this question, as almost half the sample consists of level 4 students (first year undergraduates). To combat this concern "I enjoy learning online" was further broken down by level of study. When we examine the responses to this statement by level of student, (see figure 2), results showed that level 7 (masters students) agreed with the statement the most, however there was little difference. This is confirmed by an analysis of variance which showed the group means were not significantly different  $F(3, 372) = 2.433, (p > 0.05)$ . Hence further analysis will not consider level of student as a factor.

**Figure 2.**

*Student Reactions To The Statement "I enjoy learning online" By Level.*



When we examine the open question "What were the advantages of the session being online?", 244 students responded with 235 (62.5% of all students) describing advantages and nine students responding with "none", taken to mean they could see no advantages. To the open question "What were the challenges of the session being online?", 240 students responded with 50 students replying "none". The number of students listing challenges was, therefore, only 190 (50.5% of all students). It should be noted that the majority of students noted just one advantage or challenge in response to the open questions, but some described up to three. In these cases, the responses were analysed separately for each advantage or challenge mentioned and so the overall number of responses will be slightly higher than the number of participants who responded (see table 2).

**Table 2.**

*Summary Of Responses To The Open Questions Concerning The Advantages And Challenges Of Online Learning.*

What were the advantages of the session being online?

	Number of responses	Percentage of responses
Convenience	112	45.7%
Quality of learning experience	87	35.5%
Motivational/affective factors	37	15.1%
Avoiding COVID-19	8	3.3%
Better for environment	1	0.4%
Total number of responses	245	100.0%
Total number of students who responded	235	

What were the challenges of the session being online?

	Number of responses	Percentage of responses
Technological issues	102	50.5%
Motivational/affective factors	60	29.7%
Poorer ability to communicate	40	19.8%
Total number of responses	202	100.0%
Total number of students who responded	190	

The number of responses describing advantages of online learning outweighed those explaining challenges. Advantages fell into three main themes: convenience, the quality of the session itself and positive affective and motivational factors. Similarly, the challenges concerned the three themes of technological issues, negative affective and motivational factors, and a perceived poorer ability to communicate.

The most reported advantage was convenience, which was mentioned in 45.7% of responses. Often students did not explain how the sessions online were convenient, but when they did, the main reasons given were the ability to be at home (8.5%) and the corresponding lack of need to travel (8.9%). Typical responses were: “you can join from the comfort of your home”; “being able to be in my own space” and from one student “you can wear pyjamas” – a common theme during the pandemic. Students were positive about not needing to travel to the university for face-to-face sessions, with responses such as “saving commuting time” occurring frequently. It was encouraging to see a response that not travelling “meant that I had more time and energy to study”. Time was not the only saving; one student reported “no stress over being late due to traffic” and eight students (3.4%) commented on financial savings, such as “saved parking and fuel costs”. Studying at home also enabled students to manage home responsibilities, for example giving them the “ability to do school run with my children”. On the other hand, three students (1.3%) appreciated the greater ease with which they could combine work and study: “I was able to access it at work”.

Over one-third (35.5%) of positive responses concerned the improved quality of the learning experience online. The online platforms provided a functionality which was appreciated by students, most popularly that sessions could be recorded (13.6%), allowing students to review the sessions later. Students also commented that it was easier to access third-party applications, such as Menti, when learning online and that links to websites could be shared and followed more easily during an online session (7.7%). In addition to improved functionality, an improved quality of the student experience was noted by 17 respondents (7.2%). One student commented that “at university students from the back can’t hear that well”, another that online “there was less background noise” and several students commented that online they could see the lecturer’s screen more clearly.

Positive affective and motivational factors were reported in 15.1% of cases. Over half of these (9.4% of students) reported a less stressful atmosphere online which was perceived as more anonymous. Students could “ask questions without worrying about anything” and “could type responses instead of speaking out in front of others”. This could explain responses from several students perceiving a higher level of participation online than face-to-face. A small number of students voiced that they enjoyed being able to be “altogether” online during the current pandemic. Protection from Covid-19 was only given as an advantage by eight students (3.3%). As the presence of Covid-19 was the reason for the session being online, citing it as an advantage may have been seen as superfluous.

Of course, as previously mentioned, enjoyment of online learning was not universal. Half of the challenges reported concerned technological problems. These were mostly connection problems (36.0% of students) but also included issues with sound quality once connected (5.9%). Notably five students (2.5%) reported difficulty in using either the online platform or third-party applications; while this a small minority, it demonstrates that digital competency cannot be assumed. Negative motivational and affective factors were the subject of 29.7% of negative responses. Two main issues were reported: the first was a poorer ability to concentrate (9.9%) with comments such as “it was hard at some points to remain focused. I think I would have paid more attention if I was face to face”. In addition to the non-specific reporting of poor concentration, students mentioned distractions such as “the messages that keep appearing” and “interruptions from family

members”. The second issue concerned the lack of face-to-face contact, reported by 26 students (12.8%). Students missed “not being able to discuss in person” and felt it was “harder not being in person and not having human contact”. This led to feelings of isolation for five students (2.5%).

One concerning aspect was that nearly a fifth of the challenges reported concerned a perceived poorer ability to communicate. Students reported “not being able to ask as many questions” during the session and had “less chance to ask a one-to-one question”. One student commented that “typing answers can be slow and you can’t explain yourself properly”. Communication with peers was noted as problematic in 19 responses (9.4%). During groupwork conducted in ‘breakout rooms’, students reported that other students were unwilling to talk and that it was harder to have a discussion and gauge reactions to what was being said.

### ***The age / faculty factor***

To explore the data further, participant responses were broken down by faculty and age. Table 3 gives the breakdown of students who responded to age and faculty questions. One student did not answer the question regarding age and was not included in this section of the analysis.

**Table 3.**

*Number Of Students Broken Down By Faculty And Age Group*

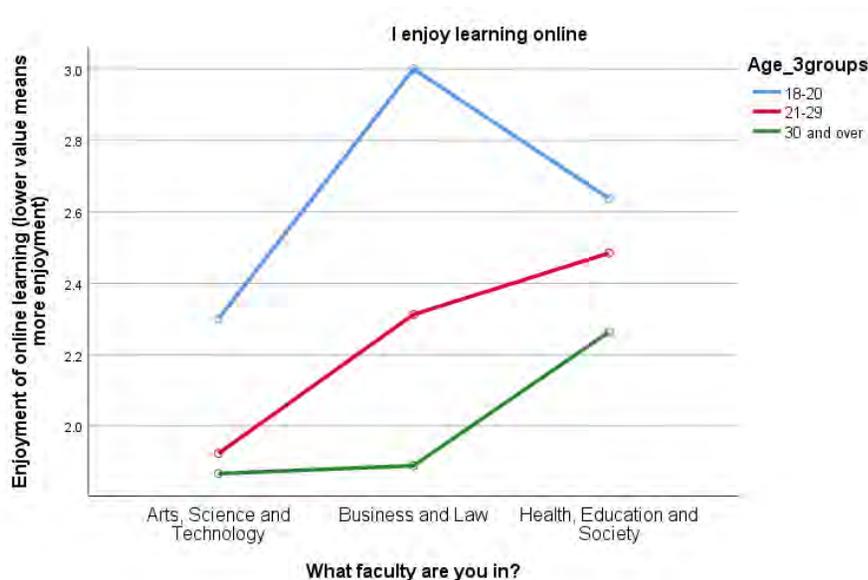
<i>Faculty/Age</i>	<i>18-20</i>	<i>21-29</i>	<i>30-39</i>	<i>40 and over</i>	<i>Total</i>
<i>Art, Science &amp; Technology</i>	20	13	10	5	48
<i>Business &amp; Law</i>	30	17	5	4	56
<i>Health, Education &amp; Society</i>	69	64	54	84	271
<i>Total</i>	119	94	69	93	375

A two-way ANOVA was conducted to examine the effects of faculty and age on the enjoyment of online learning. Residual analysis was performed to test for the assumptions of the two-way ANOVA and in order to meet those assumptions age categories ‘30-39’ and ‘40 and over’ were collapsed together. There were no outliers, residuals were normally distributed ( $p > .05$ ) and there was homogeneity of variances ( $p = 0.061$ ). The interaction effect between faculty and age group on the enjoyment of online learning was not statistically significant,  $F(4, 368) = 0.858$ ,  $p = 0.489$ , partial  $\eta^2 = 0.009$ . Therefore, it was concluded students in different age groups did not behave differently in different faculties, and hence an analysis of the main effect for faculty and age group was performed separately. For faculty it was found Art, Science and Technology (FAST) preferred

online learning the most, however, the main effect was not statistically significant,  $F(2, 368) = 2.886$ ,  $p > 0.05$ , partial  $\eta^2 = 0.016$  meaning the enjoyment level of online learning was not statistically significantly different between the faculties. In contrast the main effect for age indicated there was a significant difference in age groups on online enjoyment,  $F(2, 368) = 5.727$ ,  $p = 0.004$ , partial  $\eta^2 = 0.031$ . All pairwise comparisons were run and  $p$ -values are Bonferroni-adjusted. It was found there was only a significant difference between 18-20 and over 30-year olds ( $p < 0.01$ ) enjoyment (see figure 3).

**Figure 3.**

Satisfaction Levels Broken Down By Faculty And Age Group



The reasons for this could be illustrated by the frequency with which convenience was mentioned by older students; accounting for 70% of the advantages cited by students aged 30 and over. This reduces to 26% for students aged 20 and under. This effect of age could be exacerbated by the fact that students under 30 found communication more difficult online than students over 30 (34% compared with 13% of responses), although the reasons for this are unclear and will be discussed further in the next session.

## Discussion

### *Technology and Connectivity*

A significant point from these findings was the issue of the availability of technology and the reliability of connectivity. These findings echo Faize & Nawaz (2020) who report the most stated

problem in online learning was technology and connectivity. However, in our study, if the technology was adequate, many students felt online sessions were of high quality which could be due to the infrastructure the University of Northampton has in place for online teaching. Indeed, as previously mentioned, the ability to hear and see the lecturer's teaching materials could be better than in face-to-face sessions. This highlights the importance of ensuring students have access to devices and Wi-Fi to enable full participation. Without this, the quality of online sessions cannot be appreciated. Several researchers (e.g., Kaufmann & Buckner, 2019b; Bond & Bedenlier, 2019; Crick et al., 2020) have noted that students who are more digitally literate are better able to benefit from online learning and it is gratifying that only a small minority of students (n=5) reported issues with accessing the online platform or third-party software. It is possible that the University of Northampton's prior commitment to ABL supports students to engage with online learning. However, it is important not to be complacent and every effort should be made to ensure that students are equipped with the skills and resources they need to succeed.

### ***Communication***

It has been suggested that interaction with lecturers and peers increases student satisfaction (Faize & Nawaz, 2020) and mitigates isolation felt by students (Kaufmann & Vallade, 2020). Twenty per cent of students reported a lack of communication within the online sessions. This is a cause for concern in an environment where the exchange of ideas is to be encouraged and groupwork is a key component of active blended learning. It would be interesting to know whether these communication issues were more widespread. However, in the context of this survey, students viewed communication as a minor one compared to others that they chose to comment on. Knowing that lack of interaction can also lead to lack of engagement (Dhawan, 2020) promoting communication should be prioritised in online learning.

### ***Student age***

Several factors could explain the finding that older students enjoyed significantly more satisfaction with online learning than younger students. From our study, this was probably due to the higher premium placed by older students on convenience; older students are more likely to have additional family responsibilities which studying from home can facilitate and more likely to have a comfortable personal space in which to work. They are also more likely to live off-campus, meaning that online sessions allow them to save both the travel time and costs of attending face-to-face sessions. While Bryson & Andres (2020) highlight the negative factors of the additional distractions and pressures faced by those with caring responsibilities or dependents at home, their study did not consider the positive factors which appear to dominate in this study. The findings that students under the age of 30 were more likely to report communication being difficult online is interesting. It could possibly be linked to lack of self-confidence in younger students; or it could indicate that the ability to communicate with peers is more highly prized by younger students. This area would benefit from further research.

### ***Concentration***

In this study, the most reported negative factor was an inability to concentrate. Issues with maintaining focus during online sessions were reported by the participants. These issues have surfaced in other studies, with Bryson & Andres (2020) noting the additional concentration needed for online sessions and Stewart (2021) listing the additional distractions of being at home as a

factor. While it is not easy to find solutions to these issues, the demands that online learning places on students in terms of a suitable environment should be considered. The participants in this study did not comment on finding online learning more tiring as was reported by Bryson & Andres (2020) and Rahiem (2020) but this may be due to their different contexts.

### ***Isolation***

Other studies have cited isolation as a significant negative factor (Kaufmann & Vallade, 2020; Lomas & Hanna, 2020). It is, therefore, perhaps surprising that only five students reported feeling isolated in this study. It could be inferred that the issue of isolation was less important to participants than other benefits or drawbacks. It may also be that online learning in the context of a national lockdown allowed students to be together, albeit virtually, in a way that would not otherwise be possible: a sentiment voiced by a small number of students. This agreed with the findings from Agarwal & Kaushik (2020) who found that students not only gained knowledge online during the pandemic, but online sessions were also able to improve student morale by creating a diversion from the ongoing situation. The design process and impact of instructor interactions needs to be considered when developing online delivery (Hodges et al., 2020) as adjusting the teaching pace can impact the students' concentration levels (Bao, 2020). With careful planning in course design and structure (Kaufmann & Vallade, 2020) and the right support and guidance the students' engagement online can be nurtured (Bond & Bedenlier, 2019).

### ***Limitations***

There are several limitations to this study. The findings of the study may not be a representative because of the convenience method sampling used in addition not all students replied to the survey request. It is also important to acknowledge that not all disciplines or programmes have similar online approaches and that pedagogical approaches throughout the semester could have changed which may have affected the participant responses. It is important to note that we cannot generalise these results to all Higher Education Institutions or claim that all students in Higher Education would have experienced the sessions in the same way. The timing of the study could have impacted student experiences as some students were new to Higher Education as well as experiencing online sessions for the first time due to the government restriction of face-to-face interactions. The self-report nature of the survey could have also impacted on the findings as interpretation of the questionnaire and researchers' interpretations of the qualitative responses could have influenced the results. The online survey could have also influenced the participant responses as those digitally literate may have been more likely to respond to this type of survey. To combat this, a different research design could have been executed to ensure clarity of questionnaires and comments and reduce research bias.

### ***Conclusion***

Overall, students surveyed were happy with online learning. We did not find any differences in satisfaction with online learning between students from the different faculties or from different levels of study which indicates a parity of online experience for these students. However, there did appear to be a clear divide between the younger and older students (over 30) with older students preferring the convenience of online sessions, although what was meant by 'convenience' was not always explained. To gain more depth of understanding, this study could be extended by interviewing individual students to fully explore what 'convenience' means to them in this context.

We have highlighted some concerns with online learning for our students in this research. Access to technology is an issue that should be carefully considered before online learning is undertaken. The University of Northampton has partly addressed these issues by providing laptops to all students. However, universities need to also consider how they can ensure high quality connectivity to ensure equitable access to online learning. In non-pandemic times, high quality Wi-Fi should be available in all student areas of the university campus. When students are not located on campus, this may mean providing access to mobile data via devices such as dongles. The financial implications of equitable access also need to be considered.

Furthermore, communication is imperative and should be incorporated into the planning and delivery of online sessions to fully exploit the various methods of communication available on online platforms. This could be a focus for staff training, potentially using peer observation, which has been shown to be an effective tool to disseminate good practice (Bennett & Barp, 2008). Our students reported a significant number of advantages with online learning which outweighed the disadvantages, if effectively designed. More research into students' satisfaction of online delivery needs to occur to fully explore the student perceptions of this convenient mode of delivery.

## Conflict of interest

The authors declare that there is no conflict of interest.

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