Research

Undergraduate nursing students' experiences of online education: A cross-sectional survey

Samuel J. Pullan, RNA, BN, MSc, PGCAP, FHEA[1,#],
Rebecca Rylance-Graham, RMN, TCH, BA, PGCert, MSc, FHEA[1*],
Julie Crane, MA, PGCert, RGN, SFHEA[1], Emma Thornton, BSc, MSc[2]

[1] School of Heath Sciences, Institute of Population Health, Thompson Yates Building, The Quadrangle, University of Liverpool, Liverpool, Merseyside L69 3GB, United Kingdom
[2] Institute of Population Health, Eleanor Rathbone Building, University of Liverpool, Liverpool, Merseyside L69 3GB, United Kingdom

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ABSTRACT

During the coronavirus pandemic, UK Academics were required to adjust their learning and teaching environment and pedagogical approaches, with little guidance or time. Feelings of frustration and uncertainty around student engagement were commonplace across Higher Education Institutions. This was heightened in professionally regulated courses, such as nursing. The shift to online learning created a situation where academics were frequently faced with a 'sea of black screens' and unable to ascertain student engagement. This study investigated undergraduate nursing students' experience of online education during the COVID-19 pandemic. An anonymous survey was distributed to each year of the undergraduate nursing programme and data subsequently analysed. Responses from 54 students revealed that engagement varied between different year groups. There were significant differences between those with pre-COVID (traditional face-to-face) teaching experience (years 2 and 3) and those without (year 1) in regard to self-reported engagement with online learning. The findings from this study revealed some powerful and emotional insights into the experience of online learning amongst UK students undertaking an undergraduate nursing programme during the COVID-19 pandemic.

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Introduction & Background

The coronavirus pandemic caused global disruption to environments, workplaces, and personal situations. The UK national requirement to 'lockdown' enforced remote working for many (Johnson, 2020). In Higher Educational Institutions, unless absolutely necessary and mandated, teaching which would normally have been delivered in person, was instead delivered remotely. The imposed restrictions disrupted the studies of undergraduate students undertaking professionally regulated programmes such as nursing. The UK professional, statutory and regulatory body for nurses and midwives; the Nursing and Midwifery Council (NMC) requires students to complete 2300 hours of unpaid practice hours and 2300 hours of theoretical instruction as part of the nursing curriculum. During the pandemic, the NMC reviewed the standards pertaining to practice hours (NMC, 2021) to allow nursing students to complete their placement hours whilst working as a student to support NHS healthcare delivery. That aside, the learning outcomes of the theoretical aspects of the curriculum still needed to be met and assessed (NMC, 2018). The net result was that nursing academics and students experienced unprecedented change: increased placement hours, a shift to online learning, teaching and assessment, whilst navigating the challenges associated with living and working through a global health pandemic.

As a consequence of this, it is arguable that those located in the educational setting and/or a healthcare environment had significant levels of change to adjust to. It would therefore be reasonable to assume that those who engage in both, nursing students, experienced an even greater level of adversity.

In tandem to this, academics inevitably adapted their teaching approaches to incorporate new educational practices to encourage engagement and knowledge acquisition; often with limited technical proficiency (Coman et al., 2020). Furthermore, online educational technique development is frequently content or resource driven with minimal attention paid to engagement (Stott & Mozer, 2016). Indeed, research has found that many Higher Education Institutions internationally were not prepared for this significant increase in online learning (Coman et al., 2020) and the benefits of online learning had not been fully exploited.

*Corresponding author. Tel.: 0151 795 7866.
E-mail address: r.rylance@liverpool.ac.uk (R. Rylance-Graham).
Primary Investigator, Tel: 07887 423 099.

Whatever the teaching method utilised, UK academics frequently experienced a 'sea of black screens' (Terada, 2021) with a loss of live feedback: body language, gesture and verbal cues, resulting in uncertainty about engagement and attendance of students in both synchronous and asynchronous teaching sessions.

Uncertainty regarding attendance in professional courses is a further cause for concern as the NMC requires accurate records of student attendance to assure professional registration on completion of the programme (NMC, 2018). This compounded pressure on both students and academics to evidence engagement with sessions. Generally, one such pressured subject is webcam usage in live synchronous sessions. A common phenomenon occurs whereby large group sessions will be characterised by the aforementioned 'sea of black screens' and the facilitator with their camera on and sharing a presentation on screen. Many institutions have taken the position that staff cannot enforce 'camera on' presentation (Terada, 2021). However, teaching staff have reported great difficulty in managing sessions, gauging understanding, or tailoring sessions to groups appropriately; all combined with the challenge of accurately registering student attendance.

With hybrid models of education being the new norm across the HEI sector, this study sought to investigate the experience of online teaching from the student's perspective. When hybrid learning is mentioned in this paper, we are referring to a mixed online educational package; this could include a hybrid of asynchronous pre-learning or synchronous live online lectures.

Literature

Active engagement is cited internationally as critical for success within nursing programmes (Hudson & Carrasco, 2017; Jowsey et al., 2020). Contemporary literature on online education of nursing programmes is generally scarce. A likely reason for this is due to the perception of demand for face-to-face teaching with the subject matter requiring practical, hands on and intensive training.

Hampton and Pearce (2016) investigated engagement in online nursing programmes at different undergraduate and post graduate levels. They found that engagement significantly differed across generations, with the Baby Boomer Generation engaging the most and Millennials the least (Hampton & Pearce, 2016). Their findings could suggest a potential linear relationship between age and engagement which could be investigated further, especially engaging with newer generations now attending Higher Education.

A scoping review published prior to the pandemic ascertained some interesting points (Jowsey et al., 2020) and suggested that purposeful hybrid learning methods can be effective to supporting learning. However, it was recognised that the technological ability of both students and staff is key to the success of online education, as well as support systems to the students. Students need to feel supported in both academic and social fields to be able to engage in this form of education. The benefit of support within an active learning environment needs to be effectively communicated to students and must be accessible and common place for this form of education to function (Jowsey et al., 2020).

Even with intentional and pre-planned courses which incorporate a balanced, hybrid learning approach, issues with technology, access, pedagogical choices and communication can impact student outcomes significantly (Jowsey et al., 2020). Additionally, it has been argued that professional identity formation can only be formed with active and stimulating co-created learning and teaching environments (Leigh et al., 2020). Thus, the need to determine pre-registration nursing students' experience of engagement with online teaching is important, particularly as we look to continue hybrid models of learning and teaching in the UK. It is reasonable to assume that in the peri-pandemic world, changing to a hybrid approach with

little to no prior preparation, might render students to be lost in the world of online learning.

This research study investigated the experiences of students who had enrolled onto face-to-face (pre-pandemic) education, who then had to engage in a predominantly online education format at a large university in the UK.

Methods

Data Collection

After obtaining Institutional Review Board approval, an anonymous survey was distributed to students in all three cohorts of a Bachelor of Nursing Programme (n = 181). Data were gathered in the summer of 2021. This was a time where students were still predominantly learning online and had limited access to face-to-face learning.

Data Collection Tool

A bespoke online survey was developed by the researcher, which was reviewed as a sound survey by independent academic peers. Questions included closed questions and Likert-like scales; a mean score closer to 5 indicated more positive answers whereas a lower score indicated negative responses. There was also an opportunity for free-text comments. The mix of open and closed questions was intentional, since the area of study is an evolving, new and nuanced field. The quantitative questions were designed to ascertain an overview of feelings, experience and quantifiable data. The free text questions aimed to provide greater insight into students' feelings related to their learning and teaching experience.

Sampling and Recruitment

Students in all cohorts were sent an initial information email with a link to the online survey and were required to review and consent before starting the survey. Unique identifiers were allocated to match variables by participants and still maintain privacy.

Data Analysis

Responses were fully anonymised to encourage students to reply candidly. Responding students were allocated a unique code identifier in order that questions throughout the survey could be linked to the same identifier. This was important to enable further quantitative analysis, such as breaking down average scores into year groups, or analysing how previous responses inter-reacted with latter responses and open text responses.

Quantitative Analysis

Data from the quantitative questions within the questionnaire were analysed as an overall sample opinion and then subsequently broken down either into year group, or based on previously given answers (e.g. a decision to have camera on/off). Descriptive statistics are presented as mean results, percentages, or response counts. Standard deviation data and significance values are provided where appropriate. ANOVA (Girden, 1992) analyses were carried out to compare the groups to ascertain if they were statistically different from one another (see Table 2) (Statistical tools for high-throughput data analysis (STHDA), 2021). Questions highlighted in Table 2 in blue were in the format of five-point Likert-Like questions. Answers were recorded onto a 1-5 scale for quantitative result display. The most negative answers on the scales (i.e., extreme difficulty/ strong disagreement) were given a score of 1, and the most positive

Table 1
Demographic Characteristics

Age of participant	Percentage Split − Overall		
18-24	74%		
25-34	19%		
35-44	7%		

Age of Participant	Percentage − Year 1	Percentage − Year 2	Percentage − Year 3
18-24	59%	90%	71%
25-34	24%	10%	24%
35-44	18%	0%	6%

(i.e., extreme ease/strong agreement) were given a score of 5. A mean average was created for each Likert scale. The mean scores of the overall sample, and split by year group, were analysed using *aov* function in R. R is an existing statistical language and environment which is reliably used to compute a large variety of statistic tests, analysis and plot graphs (Schumacker, 2014; STHDA, 2021) Pairwise comparisons between the groups were calculated using the *TukeyHSD* function, when the ANOVA (Girden, 1992) revealed a significant main effect.

Free-Text Analysis

The free text narratives were extrapolated from the camera on/camera off free text questions. The narrative data were examined and thematically analysed guided by Braun and Clarke (2006). Thematic analysis was selected by the authors to supplement the quantitative datasets and add richness to the findings of the study. After reading and re-reading the narrative data, patterns which emerged from the data were subsequently coded. Themes from the coded data were generated, creating an 'essence' of the student experiences.

Results

The final response sample was 54 (29.8%) (n = 54) which represents n = 17 (24.6%) from year 1, n = 20 (35.1%) from year 2 and n = 17 (30.9%) from year 3.

Students

The age of students showed little diversity in age demographic. About 74.1% of all students were within the 18-24 age range, 18.5% aged 25-34 and 7.4% aged 35-44. Age demographics across the respondents within each year varied slightly. The most diverse age

Table 2
Feelings, Engagement and Participation

Key: * Statistical significance Likert-like scale used			
Please rate your overall feelings towards online education in nursing − 1 being the worst feelings (i.e., extremely poor/terrible), 10 being the best (i.e., it is great, I much prefer it).			
Mean score & (standard deviation) − Overall	Year 1	Year 2	Year 3
5.26 (1.81) ANOVA significance results (p)	6.47 (1.77) Year 2-Year1 p = .0087 *	4.8 (1.51) Year 3-Year1 p = .0042 *	4.56 (1.63) Year 2-Year3 p = .9017
How do you feel your engagement has been in online sessions, in comparison to face to face/in person sessions?			
Mean score − overall (Std Dev)	Year 1	Year 2	Year 3
2.15 (0.83) ANOVA significance results (p)	2.65 (0.93) Year 2-Year1 p = .014 *	1.9 (0.64) Year 3-Year1 p = .028 *	1.94 (0.75) Year 2-Year3 p = .986
How much do you agree with the following sentence? I have actively participated in the learning activities in online live sessions.			
Mean score − overall (Std Dev)	Year 1	Year 2	Year 3
3.80 (0.96) ANOVA significance results (p)	4.12 (0.6) Year 2-Year1 p = .125	3.5 (1.1) Year 3-Year1 p = .636	3.82 (1.01) Year 2-Year3 p = .554
How difficult do you find it to engage in live online sessions?			
Mean score − overall (Std Dev)	Year 1	Year 2	Year 3
2.31 (0.97) ANOVA significance results (p)	2.75 (1.09) Year 2-Year1 p = .089	2.1 (0.91) Year 3-Year1 p = .118	2.12 (0.78) Year 2-Year3 p = .998
Tools suggested for engagement with live sessions	Count for Student selection − aiding	Count for student selection − hindering	
Quizzes	40	0	
Polls	31	0	
Live Q+As	16	3	
Group work/group presentations	14	11	
Breakout rooms	21	12	
Smaller group tutorials	34	0	
Large group lectures	3	11	
Pre-learning (asynchronous) and small tutorials (live)	23	6	

A table displaying the quantitative data presentation of the quantitative, closed answer questions and the interpretation of it including significance values and standard deviations of the raw data.
The * represents statistical significance (annotated on table).

ranges were found in year 1 respondents, the least diverse in year 2 with 90% being 18-24 and the remaining 10% within the 25-34 age range. See Table 1 below.

Quantitative Findings

There was a significant effect of year group on feelings towards online education, F (2, 50) =6.92, $p = .002$, $np^2 = .22$) with significant differences between students in year 1 and students in year 2 (Table 2; $p = .008$) and between year 1 students and year 3 students (Table 2; $p = .004$). There was no significant difference between students in year 2 and 3 (Table 2; $p = .902$).

Feelings Towards Online Education

Results in this section showed discrete individual year-based trends which were not reflected in an overall average as can be seen in the breakdown of Table 2. Splitting the averages into the year groups showed a correlation that increased levels of 'pre-COVID teaching' exposure (Years 2 + 3) created negative feelings towards online education.

Self-Perceived Engagement Levels

When students were asked to self-report engagement levels in online sessions the general mean score for this was low (2.15). There was a significant effect of year group on engagement in online education, F (2, 51) =5.16, $p = .009$, $np^2 = .17$), students in year two expressed significantly less engagement than those in year one (Table 2; $p = .014$). There was also a significant difference (decrease) between students in year 1 and students in year 3 (Table 2; $p = .028$). However, there was no significant engagement difference between students in year 2 and 3 (Table 2, $p = .986$).

However, interesting trends, as seen with the feelings towards online education emerge with deeper analysis split of the year groups. It is indicated that year 1s have self-reported significantly higher level of engagement in online learning than that of years 2 + 3. These results show significant differences, in enjoyment and engagement, between year 1 students who had not had pre-COVID teaching exposure and those in years 2 + 3.

Difficulty to Engage

When asked about engagement compared to before the pandemic, there was no significant difference between year group on difficulty to engage in online education, F (2, 51) =2.871, $p = .066$, $np^2 = .1$). One aspect to note would be the spread of data in questions around difficulty to engage. The standard deviation is greatest in year one students and lowest in year 3 showing that year 3 students had the least spread towards positive responses and kept their answers in the difficulty side of the scale. The narrative data offered several insights as to why this may be the case. This will be discussed later.

Camera Status

Interestingly, data analysis across the years does not show obvious change in the distribution of camera on/off choice, with most students in all years choosing the 'it depends' option. Across all cohorts, most considered that having a camera on didn't change their ability to engage (51%), 38% believed 'camera on' improved their engagement and 11% believe it made it harder to engage (Table 3).

There is an interesting difference when data was split into those from the camera on, off or 'it depends' groups. Of those who stated they had their camera off, the majority indicated camera off status made no engagement difference (58%). However, this group had the

Table 3
Camera Status

In live sessions, do you choose to put your webcam on or off?				
Percentage Overall		Year 1	Year 2	Year 3
On	18.5%	23.5%	10%	23.5%
Off	22.5%	17.6%	25%	23.5%
It Depends	59.3%	58.8%	65%	52.9%

Do you feel having your camera ON changes/would change your ability to engage?				
Overall		Camera On group	Camera off group	It depends group
Easier	38%	80%	8%	35%
Harder	11%	0%	33%	6%
No Change	51%	20%	58%	51%

Do you feel having your camera OFF changes/would change your ability to engage?				
Overall		Camera On group	Camera off group	It depends group
Easier	21%	0%	58%	13%
Harder	34%	57%	8%	32%
No Change	45%	43%	33%	55%

A table displaying the quantitative data presentation of the closed answer questions which interpret the percentage of camera usage and how students camera use influences their opinion of a camera status ability to engage.

largest percentage (33%) stating having a camera on would make it harder to engage. The 'camera on' group showed the large majority reporting that having their camera on facilitated engagement (80%), the remaining students in this group stated no change to engagement. Finally, when analysing the 'it depends' group, results showed a similar level of ambivalence to the overall numbers (51%), but did show a greater tendency of ease of engagement than those with camera off (35%).

When respondents were asked about having cameras off, results were slightly more widespread. This breakdown of ambivalence, ease and difficulty is displayed in Table 3. It is clear, nonetheless, that there is mixed opinion in the participant sample as to the effect of camera on/off status on their engagement and learning.

The final questions investigated whether there were any tools/academic practices which helped or hindered their engagement with online live sessions. Students reported the greatest aid to engagement in the list given to be quizzes (n = 40), small group tutorial sessions (n = 34) and polls (n = 31). Students were given the option to select multiple choices of what they found useful here.

The students were then asked if any of the pedagogical activities hindered their ability to engage. The most hindering activities of note are large group lectures (n = 11), breakout rooms (n = 12) group work/presentations (n = 11). An interesting finding was that there is some overlap in the moderately chosen hindering activities and some popular positive activities, potentially showing some disagreement amongst student responses across the sample. This could warrant further investigation.

Free-Text Findings

The thematic analysis of the free-text narrative data revealed two key themes, each with three sub-themes.

Key Theme 1: Home Arrangements
Since most students access their online learning from their home address, the data analysis revealed a number of sub- themes related

to their home arrangements which impacted on their online learning experience.

Sub-Theme 1: Distractions

Students found it difficult to concentrate during online sessions, often related to their home learning environment.

- P1: 'I don't have a designated workspace'
- P2: 'home life makes it difficult to concentrate'
- P3: 'I get distracted . . .it's easier to zone out at home'
- P4: 'Answering the door... other people in the house'
- P7: 'being in the same room where I sleep and eat'

Sub-Theme 2: Technology

The students frequently reported technical issues from home which impacted on their online learning experience.

- P5: 'the Wi-Fi can be temperamental'
- P6: 'the microphone doesn't always work'

Furthermore, issues such as the occasional lag in the technology impacted opportunities to interact with each other and their tutor.

Sub-Theme 3: Engagement/Interaction

There was a sense from the narratives that interactions or opportunities to interact with classmates or tutors were limited by the virtual teaching space, despite chat boxes and breakout rooms. This was compounded by the lack of visual cues due to cameras being switched off during online sessions. Students also described issues in the technology resulting in missed verbal cues, meaning that student engagement was compromised.

- P7 'there are no natural social cues [online]'
- P8: 'multiple people speaking at one time. . .I feel apathetic about participating'
- P9 'trying to be heard online is hard'

Key Theme 2: Wellbeing

The qualitative data analysis revealed a number of themes related to wellbeing associated with the online learning experience.

Sub-Theme 1: Fatigue

Related to technology, was the issue of fatigue associated with screen time. It has been reported in the literature that the resource-intensive nature of online learning contributes to learner tiredness and poorer attention span (Mukhtar et al., 2020).

- P9: 'I miss the breaks we would get with live lectures'
- P10 'I spend too long on the laptop'
- P11 'attention to the screen is tiring'
- P12 'it takes a lot of mental effort to concentrate online'

Sub-Theme 2: Anxiety

The expression of anxiety was frequently expressed as embarrassment, discomfort and self-consciousness.

- P1: 'I get really anxious putting my camera on'
- P2: 'I feel uncomfortable having my camera on when my peers do not'
- P3: 'I like to have my camera off. I am very conscious of people being able to see me'
- P4: 'it feels like everyone is watching me so I am unable to pay any attention to the lesson'

- P5: 'It's hard to speak up because you don't know what other people are thinking

Sub-Theme 3: Emotional

The emotional themes alluded to both positive and negative emotions.

- P1: 'Instead of concentrating on the PowerPoint I would be thinking about what I looked like'
- P3: 'I choose to have my webcam off. This makes me more comfortable when answering questions, and also it makes me more comfortable learning in my home environment.
- P4: 'I think it is a bit rude to keep your camera off and it should be on as a sign of respect'
- P5: 'It makes me feel more included in the experience'

Discussion

Analysis has provided some interesting insights into the experience of online learning amongst students undertaking an undergraduate nursing programme during a pandemic.

Pre-COVID Teaching Exposure

One of the most interesting findings, worthy of further investigation, is the difference between first year nursing students and second and third year nursing students. It appears there is significant difference in perceived engagement, experience, and enjoyment found between those who have had little to no exposure of nurse education 'pre-COVID', and those who had previously only been educated face to face. This is particularly evident in the statistically significant difference in self-perceived engagement (Table 2). Some age/generational difference in student online engagement has been investigated previous to the pandemic (Hampton & Pearce, 2016). However, the notion of pre-COVID face-to-face education influencing the experience of post-COVID online learning in Higher Education has yet to be observed in the literature. It is perhaps unsurprising that students who were familiar with face-to-face learning found it more difficult to adapt to change. The concept of 'professional socialisation' is an interesting facet of learning in nursing programmes (Gibbon & Crane, 2018; Melia, 1989) and refers to the need to understand and comply with social and cultural norms in order to fully develop as a nurse. In our study, students in years two and three had experienced significant disruption to their previous 'norm' with regarding to learning and teaching methods. Conversely year one students would have commenced the programme with some expectation of teaching being primarily delivered online, thus it is perhaps understandable that their responses were more positive and indeed it could be argued that online learning might have become their cultural norm, this will be interesting to explore as institutions revert back to face-to-face teaching.

Camera Usage

When investigating student opinion of both hindering and helping factors related to their engagement of online earning, there is notable crossover and differences in opinion across cohorts. Frequently mentioned helping factors were also popular hindering factors.

A clear example of this was with regards to students' perspectives about whether cameras should be off or on during teaching sessions. Students who chose to have their camera on, felt strongly that

cameras should be on, citing that this was polite and professional behaviour and that visual cues facilitated engagement. Conversely for other students, the requirement to be visible on screen raised concerns that this created further distraction and self-consciousness, thus hindering engagement – a concept discussed further with regards to student well-being. These conflicting views pose a difficult dichotomy; it could be argued that at the time of the pandemic, this finding supports those Higher Education Institutions which insisted that the use of a webcam should be a student's individual choice. However, the potential for lack of engagement is a concern and we suggest that 'camera usage' is worthy of further exploration. Castelli and Sarvary (2021) found that some students originally had their cameras on, but then turned them off due to 'camera off' appearing to be 'the norm'. This observation also resonates with the aforementioned influence of professional socialisation and is perhaps a useful extension of this theory (Melia, 1989). Castelli and Sarvary (2021) purport that 'camera on' increases engagement and they recommend that educators at least encourage camera usage. When institutions return to face-to-face learning, it would be worth exploring this further with individual groups, to try to encourage camera usage becoming 'the professional norm' – rather than it being unusual. That withstanding it must be acknowledged that technical issues such as wi-fi instability, particularly in rural areas, may be a factor in terms of camera participation. This was not explored in the study but is worthy of future consideration when determining academic expectations.

Home Life Infiltration

It was recognised that 'home life', which usually provides a supportive environment for students was unfortunately a distraction when learning from home. This was supported in a study by Cleofas (2021). Students reported lack of dedicated workspace and technical equipment (such as a working microphone or failing Wi-Fi) as being barriers to learning and engagement. In addition, deficiencies in technological ability and lack of familiarity with accessing the various communication platforms hindered motivation. Furthermore, online learning and discussion platforms have been found to limit discrete discussion and individual voices from being heard (Retnaningsih, 2021). Techniques to overcome this feeling of being lost within the online cloud should be investigated and managed in this online field (Wang & Reeves, 2007). The expectation of all students to be able to confidently speak up in front of all peers, all of the time, may need to be adjusted. Authors have previously called for academics and students to engage, discuss, and work together to make better learning environments which can be active and stimulating (Leigh et al., 2020; Robinson & Hullinger, 2008). This should be extended to online learning also.

In addition, students reported frequent disruptions from family members and cohabitants and a feeling of not being able to concentrate working in what might be simultaneously a bedroom / dining room and study, a finding echoed in Castelli and Sarvary (2021).

Student Wellbeing

Wellbeing of students was impacted by the sudden change to home learning. Students cited fatigue as being a reason for not feeling engaged and on occasion this limited or prohibited camera usage. The virtual learning environment can be mentally draining (Robinson & Hullinger, 2008), perhaps more so than previously assumed. Concentration effort appears to be in great demand when working online, yet it appears to be more difficult to sustain due to a plethora of barriers. This increased mental effort appears to have potential to impact wellbeing, which was compounded by the emotional burden of whether or not to use a webcam. Students reported feelings of self-consciousness and anxiety; they felt that they were constantly being watched and were often uncomfortable about their appearance. This finding was also reported by Castelli and Sarvary (2021). It has long been known that self-consciousness and anxiety can have great impact on performance (Hopko et al., 2005; Woodman & Hardy, 2003), and it would appear that the online learning environment can be a contributory factor to student anxiety.

Implications for Academics

This is an evolving area of inquiry, with little yet reported in the literature. As we start to plan for future academic years, there is much to be learned from the recent experiences of both staff and students. From both our study and that of Castelli and Sarvary (2021), it is clear that apparent lack of student engagement is not always due to purposeful disengagement, ease, or unprofessionalism. Often there can be nuanced, individual, and valid reasons for student behavioural choices, particularly with regards to camera usage. It is likely that many programmes will continue to at least make some use of the technology to which we became accustomed in 2020/21 and retain some elements of online learning. It would be helpful to explore openly with cohorts what worked and what was less satisfactory to enable effective hybrid 'best practice' guidelines to be developed.

Limitations

The study was limited by its small sample size, single Higher Education Institution and research design of cross-sectional survey. The support available to students, in both an institutional, pastoral and peer context will vary considerably between academic institutions and cohort sizes, as will the digital ambidexterity of academic staff. Therefore, this research should be viewed as emerging and guiding rather than generalisable across all nursing students at all universities.

The sample size of the study would be considered low for quantitative work, but it does give sufficient data to interrogate emerging trends to inform future empirical study. The free text data provides insights to support future qualitative research.

Conclusions

Study findings reveal interesting insights into undergraduate nursing students' experience of online learning. Students showed varied responses to questions about engagement. Engagement was shown to be influenced by multiple facets of the student's life and wellbeing. Students who have not had pre-pandemic education had greater levels of self-reported engagement to online education compared to those who have had previous experience of face-to-face teaching. This finding has the potential to influence pedagogic knowledge and future research. Ascertaining the feelings across those whose educational experience has been changed during the pandemic is of vital importance to keep students engaged. The narrative data introduces more striking and emotive reasons for differences in opinion. Further investigation with students to understand those who are struggling to flourish in this online environment is an important step towards supporting students.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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