



## Research article



## Nursing students' and faculty members' experiences of online education during COVID-19 across Southeast Asia: A Photovoice study

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## ABSTRACT

**Background:** The COVID-19 pandemic has caused extraordinary disruptions to education systems globally, forcing a rapid switch from conventional to online education. Although some qualitative studies have been carried out exploring the online education experiences of nursing students and faculty members during the COVID-19 pandemic, to our knowledge, no study has used the Photovoice approach.

**Objectives:** To explore the experiences of nursing students and faculty members as related to online education during the COVID-19 pandemic.

**Design:** A descriptive qualitative design using Photovoice was adopted.

**Setting:** The study took place across five countries and one city in Southeast Asia (Indonesia, Malaysia, the Philippines, Thailand, Vietnam, and Hong Kong).

**Participants:** Fifty-two nursing students and twenty-eight nursing faculty members who participated in online education during the COVID-19 pandemic.

**Methods:** Each participant submitted one photo substantiated with written reflections. Data were analysed using thematic analysis. Ethical approval was obtained from institution-specific ethics boards.

**Results:** Three themes and eleven sub-themes emerged from the data. The three main themes were: 1) Psychological roadblocks to online education; 2) Developing resilience despite adversities; and 3) Online education: What worked and what did not.

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*Conclusion:* Through Photovoice, the reflections revealed that nursing students and faculty members were generally overwhelmed with the online education experience. At the same time, participants were satisfied with the flexibility and convenience, opportunities for professional and personal development and safety afforded by online education. However, concerns over academic integrity, practical skills and clinical competencies, engagement and participation, the duality of technology and social isolation out-shadowed the advantages. It is worthwhile to explore the concerns raised to enhance online education across the nursing curriculum.

## 1. Introduction

The Coronavirus disease 2019 (COVID-19) pandemic has affected healthcare, economic and education systems in over 200 countries globally (Sun et al., 2020). The global education sector faced extraordinary disruptions, with educational institution closures affecting 90% of the world's student population (UNESCO, 2020). School closure is a vital strategy for limiting the transmission of infectious diseases (Cauchemez et al., 2008). Recent evidence showed reduced incidences and mortality from COVID-19 when school closures were implemented (Auger et al., 2020; Andersen et al., 2021). The implementation of social distancing policies to curb the spread of COVID-19 forced a rapid switch from conventional to online education. Although some variations of information technology (IT) have already been utilised to assist instruction in conventional learning (i.e. offline learning), conventional teaching methods still require learning and teaching to occur at the same location and time (Pei and Wu, 2019). Conversely, online education is defined as "learning experiences in synchronous or asynchronous environments using different devices with internet access." (Dhawan, 2020, p. 7). Due to the pandemic, overnight: 1) clinical activities were suspended; 2) nursing faculties were compelled to transition to online education; and 3) students were required to adapt to a self-directed/self-regulated learning model (Ramos-Morcillo et al., 2020). This transition inevitably impacted nursing students' continuity of learning, and faculty members' adaptation to new teaching pedagogies (Kumar et al., 2021). As online education is growing in prevalence and is anticipated to persist post-COVID-19, considerable attention must be paid to understand the experiences of navigating online education.

## 2. Background

Recent advances in technology and the accessibility of devices have facilitated the adoption of online education platforms (Bdair, 2021). Through online education, faculty members can engage large cohorts of students concurrently with both synchronous and asynchronous learning options (Kumar et al., 2021). The main advantages of online education include increased accessibility, affordability, comfort, ease of management and use, flexibility and remote delivery (Dhawan, 2020). Contrariwise, significant challenges perceived include: 1) reduced engagement, interaction and feedback; 2) motivation and concentration difficulties, and lower academic achievement; and 3) nascent software infrastructures/tools and poor digital literacy (Bdair, 2021; Dhawan, 2020; Masha'al et al., 2020). Traditionally, successful digital transformation of higher education requires many years of systematic, organised, and collegial design of the content and development of skills (Kumar et al., 2021). However, these *modi-operandi* were not possible during COVID-19. The crux of nursing education involves developing clinical judgment to make critical decisions that affect patient health. Traditionally, nursing knowledge and skills were honed through in-person laboratory instruction, lectures, and clinical attachments. During pandemics, faculty must ensure students can integrate knowledge with clinical practice, meet academic requirements and have their needs addressed (Ramos-Morcillo et al., 2020).

Six recent qualitative studies on the experiences of nursing students and faculty members of online education during COVID-19 pandemic were identified, of which four focused solely on nursing students (Lovrić et al., 2020; Masha'al et al., 2020; Suliman et al., 2021; Wallace et al.,

2021 (Lovrić et al., 2020; Masha'al et al., 2020; Suliman et al., 2021; Wallace et al., 2021) while two included both nursing students and faculty (Bdair, 2021; Esposito and Sullivan, 2020). Overall, nursing students and faculty members have mixed attitudes towards online education experience.

Significant challenges to transition to online education included unclear online teaching strategy, lack of standardised proctoring parameters for examinations and assessment, impaired student-faculty interaction and feedback, and huge disorganised workloads (Bdair, 2021; Masha'al et al., 2020; Suliman et al., 2021; Wallace et al., 2021). Technological difficulties such as unreliable and poorly designed online learning infrastructure, lack of IT support, steep learning curves, and the lack of orientation, proficiency and training with navigating and utilising online learning and software platforms also contributed to a less positive experience (Bdair, 2021; Esposito and Sullivan, 2020; Masha'al et al., 2020; Suliman et al., 2021). Importantly, these studies show the shortcomings of online education in fulfilling educational outcomes and contributing to students' stress towards their clinical performance as most clinical skills cannot be learned online (Bdair, 2021; Esposito and Sullivan, 2020; Suliman et al., 2021). Especially, final-year nursing students reported that online education negatively affected their clinical competency, preparedness for licensing examinations and transition to becoming registered nurses (Bdair, 2021; Esposito and Sullivan, 2020; Masha'al et al., 2020; Suliman et al., 2021). Additionally, students and faculty also reported that the COVID-19 pandemic itself as being a significant source of stress and distraction which further exacerbated their psychological well-being (Lovrić et al., 2020; Masha'al et al., 2020; Suliman et al., 2021; Wallace et al., 2021).

Conversely, the advantages of online education included greater flexibility and convenience, the ability to study at their own pace, a wide array of teaching materials to cater to the various learning needs of nursing students and greater ease of nursing faculty to administer lectures and examinations (Bdair, 2021; Suliman et al., 2021). Online education also afforded nursing students the opportunity to become more independent, motivated and self-directed learners and honed their thinking and problem-solving skills which ultimately led to improvements in their academic progress and achievements (Bdair, 2021; Suliman et al., 2021; Wallace et al., 2021). Encouragingly, online education was shown to improve the relationship between students and faculty as both parties developed greater empathy for each other's struggles during the pandemic and a greater appreciation for the efforts and sacrifices made to collaborate and ensure the success of online learning (Esposito and Sullivan, 2020; Lovrić et al., 2020).

Despite the aforementioned qualitative studies, to our knowledge, no study thus far has used the qualitative Photovoice approach concurrently with nursing students and faculty members across Asian countries. One advantage of qualitative research is that it can generate rich data that provides contextual understanding often missing from quantitative research. Photovoice allowed researchers to easily collect qualitative experiences from different areas around Southeast Asia using a common platform for direct comparison. Therefore, this study aims to further elucidate our understanding of this phenomenon and validate existing literature using Photovoice.

### 3. Methods

#### 3.1. Research design

A descriptive qualitative design using Photovoice was adopted. Photovoice encourages individuals to record and reflect on significant issues and how they view themselves and others and promote critical dialogue and knowledge through discussions of photographs (Wang and Burris, 1997). It enables participants to visually present experiences and personal knowledge about issues that cannot be expressed with words alone and helps researchers derive different ideas beyond verbal/written interviews (Wang and Burris, 1997).

#### 3.2. Recruitment and data collection

Participants were nursing students and faculty members from Southeast Asian universities. Recruitment of participants occurred between March and August 2021 using convenience sampling. The study team sent out email invites containing: 1) study aims and eligibility criteria; 2) research procedures; 3) privacy/confidentiality; and 4) contact details. Interested participants contacted the study team directly via email and they were thoroughly briefed again before written consent was obtained. Participants were provided an instruction sheet to submit their reflections with a photograph. The multilingual authors translated reflections from participants' native languages (Bahasa Indonesia, Thai, Vietnamese) to the English language when required. All submissions were analysed until data saturation was reached. The reflection sheet template is presented in Appendix A.

#### 3.3. Data analysis

Thematic analyses of the data were guided by Braun and Clarke's six-step procedure (Braun and Clarke, 2006). Two authors repeatedly read and re-read participants' submitted reflections to gain familiarity with the dataset and initial codes were independently derived. Meaningful word patterns and recurrent concepts were grouped and regrouped multiple times to obtain the themes and cohesive sub-themes. Triangulation of findings to look out for similarities and differences between varied groups (e.g. undergraduate and postgraduate students as well as faculty) were considered throughout the data analysis (Sandelowski and Barroso, 2007). Any discrepancies were resolved by consensus through discussion. The Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist (Tong et al., 2007) used is presented in Appendix B.

#### 3.4. Rigour

Trustworthiness of the data was ensured through adhering to the principles of qualitative rigour (Lincoln and Guba, 1985). Credibility was enhanced by reading and re-reading the dataset and cross-checking among team members. Transferability was enhanced by providing rich descriptions of the research setting, methodology, and participants' demographics and experiences. Confirmability and dependability were enhanced through maintaining an audit trail of all analytical/methodological decisions made throughout the study.

#### 3.5. Ethical consideration

Ethical approval was obtained from respective universities' ethics boards. Voluntary participation, rights to withdraw and confidentiality of identity were adhered to. The National University of Singapore was the main host institute for this study and the ethics approval number from the review board is NUS-IRB-2020-436.

### 4. Results

#### 4.1. Participants

A total of 80 participants participated in this study: 52 nursing students (14 males, 38 females) aged 19–41 years, of which 37 were undergraduates and 15 were postgraduates. Twenty-eight nursing faculty members (5 males, 23 females) aged 28–62 years participated. Participants were from five different countries and one city: Malaysia ( $n = 25$ ), Thailand ( $n = 18$ ), Vietnam ( $n = 15$ ), Hong Kong ( $n = 12$ ), Indonesia ( $n = 8$ ), and the Philippines ( $n = 2$ ). Participants' demographic data is presented in Appendix C.

#### 4.2. Data

Three themes emerged from the qualitative analysis of the reflection: 1) Psychological roadblocks to online education; 2) Developing resilience despite adversities; and 3) Online education: What worked and what did not. The themes and their respective sub-themes are described below. Participant quotes/photos are denoted by 'Student/Faculty-X', where X is the participant identification number. Photos corresponding to figure numbers are presented in Appendix D.

#### 4.3. Theme 1: psychological roadblocks to online education

##### 4.3.1. Motivation and concentration

Participants used common descriptions such as "bored," "depressed," "lonely," "sad" and "sleepy" to convey their mood during quarantine and online classes. Students described schools as important agents for "socialisation" and "building meaningful friendships", and the mandatory social distancing and lockdowns regulations imposed along with school closures led to feelings of social isolation. Furthermore, the abrupt loss of personal contacts with peers and faculty led to reduced perceptions of peer support and greater unpreparedness to transition to online learning. As such, participants reported feeling higher levels of psychological distress and loneliness and felt less motivated and focused during online learning. One of the students described the restrictive nature of lockdowns as akin to having one's freedom snatched away as shown below:

*"I feel like the buildings are so close I can almost reach out and touch them..."*

(Student-1, Fig. 1.1)

This was echoed by Faculty-1, who used a photo of the beach taken after her quarantine order was lifted to symbolise the liberation and boost to her mental health felt as the vastness and openness of the beach juxtaposed her small and restrictive home environment:

*"The scenery of the beach gives me calmness, it is mesmerizing...I appreciate nature and enjoyed the sky... wish I can go back..."*

(Faculty-1, Fig. 1.2)

##### 4.3.2. Fear in time of pandemic

Participants felt "anxiety," "stress" and "worry" over the sudden onset of the pandemic, and those performing nursing duties felt "fear" and "vulnerability" to being infected due to vaccine and healthcare protocol uncertainties. Faculty-2 used the imagery of a sudden down-pour to illustrate the uncertainties faced in the acute phase of COVID-19.

*"...a bright sky without cloud or clue of going to rain...heavy rain fell suddenly, which like the Covid-19 outbreak...and we were caught off guard."*

(Faculty-2, Fig. 1.3)

The widespread fear was reverberated by Student-2, who shared how a once-bustling public park became eerily desolate:

*"...no one dares to leave home for exercise, so this place, where were vibrant in the past, gets kind of gloomy as well as the mind of many people..."*

(Student-2, Fig. 1.4)

Despite boredom and stress, the majority of the participants echoed that online education was "appropriate," "good" and "worthwhile" as it safeguarded their health against COVID-19 infection.

#### 4.4. Theme 2: developing resilience despite adversities

Participants shared their insights on their sources of resilience during the pandemic. Sources ranged from relying solely on self-resilience to faith and religion. The two most prevalent sources reported are as follows:

##### 4.4.1. Courage and a sense of duty tied to profession

Despite the risks and fear of infection, nursing students felt they had an important role to play during the pandemic. This empowered them to rise to the occasion and fulfil their responsibilities. In this context, many students submitted photos of themselves wearing their nursing uniforms as a symbol of solidarity/pride for their profession:

*"...as a nursing staff, at this time, everyone needs us the most...In the hospital, you have to be ready to fight at all times...no longer afraid, but braver."*

(Student-3, Fig. 2.1)

*"The COVID-19 epidemic has made everyone worried about getting infected ...But that does not cause any hesitation to me to practice at the hospital."*

(Student-4, Fig. 2.2)

Additionally, many students reported feeling "amazed" and "proud" at the efforts and sacrifices of healthcare professionals, which reaffirmed their choice of profession and helped them persevere.

Some faculty members shared that as nursing educators they felt they had a responsibility to mentor, teach, and inspire future generations of nurses. Faculty-3 discussed how being recognised for her efforts invigorated her to be resilient in these duties and deliver high-quality education despite the pandemic:

*"Of course, I felt happy and glad to be chosen as the best researcher. But I think I have to emphasize that I have a responsibility to show more to the nurses on how to do better research...during COVID... I must guide them properly in this research field."*

(Faculty-3, Fig. 2.3)

##### 4.4.2. Camaraderie and strong positive relationships

Participants generally agreed that support in the form of strong positive relationships with peers formed a strong foundation for their resiliency during the pandemic. The importance of a friendship network was asserted by Student-5 who sought comfort and strength in her peers to overcome her adversities:

*"The feeling at that time felt like it wasn't safe to go for clinical posting because of the COVID situation...but that time I was happy because I was with friends...this kept me going..."*

(Student-5, Fig. 2.4)

Participants highlighted that strong communication and collaboration between students and faculty were necessary to overcome the

academic challenges of COVID-19. Student-6 shared a photo of a knot, symbolising that on their own, individuals have limited strength and are easily frayed and broken, but if they choose to work together, they become more resilient and secure.

*"Brainstorming and working together, along with cooperation and competency will be the strongest power that leads us to certainly get through this crisis"*

(Student-6, Fig. 2.5)

#### 4.5. Theme 3: online education: what worked and what didn't?

##### 4.5.1. Continuity of learning

The consensus among participants was that continuity of learning was affected during the shift to online education. Students highlighted that online education seemed to be only applicable to theoretical subjects. The discontinuation of clinical attachments due to COVID-19 severely impacted students as online education could not "simulate," "replicate" or "replace" in-person clinical experience. Student-7 illustrated how her competency in specialities like paediatrics, where special cognitive and psychomotor skills are required, was impacted:

*"The epidemic made me feel depressed; it was difficult for me to concentrate on [online education] ... I keep remembering my time in the nursery... I was happier..."*

(Student-7, Fig. 3.1)

This was reiterated by Faculty-4, who expressed the importance of ongoing feedback and learning through practise to improve proficiency and safety which can only be achieved through in-person or face-to-face teaching. She shared a photo of an in-person practical session for student nurses which she championed for and conducted during the pandemic despite curriculum disruptions because she highlighted that:

*"...students need to have the basic knowledge and skills...online teaching cannot replace the face-to-face teaching, especially in nursing practice."*

(Faculty-4, Fig. 3.2)

Furthermore, students expressed feelings of unpreparedness to resume their nursing duties after a prolonged absence from the clinical environment. Student-8 illustrated how putting on her nursing uniform for the first time caused the harsh reality of her inexperience to hit her:

*"Although I am a year 3 nursing student already, I have not yet attended any clinical practicum this year... wearing [my nursing] uniform is daunting..."*

(Student-8, Fig. 3.3)

The lack of clinical experience was a vicious cycle as it prevented the understanding of more complex theoretical subjects and linking them to practice. Faculty-5 used a photo showing a struggling student to depict this impact:

*"...the discrepancy between the instructor who tried to provide the whole picture...and what the student perceived is not congruent... This is because they are novices, no experience working...very difficult to be on a same page..."*

(Faculty-5, Fig. 3.4)

##### 4.5.2. Work-study-life balance

Many participants described what worked with the online education e.g. it was "convenient" and "flexible" as they were able to access the virtual class immediately. Students used "extra rest," "productive," "relaxed" and "saves time" to describe improvements to their work-life balance. Student-9 shared how the informal approach via online

teaching improved her learning:

(Student-11, Fig. 3.10)

*“I studied without feeling sleepy and I also ate some delicious food that I like as well...so not a bad idea after all...”*

(Student-9, Fig. 3.5)

The ability to playback lectures and the ability to consume online education anywhere at their own pace was perceived to deepen students' learning. Furthermore, participants who were working reported better work- and class-schedule balance.

The blurring of work and personal life boundaries was met with mixed emotions. Few family caregivers felt it was “easier” to carry out their responsibilities, while most reported having “less time” and that “[starting] work when everyone is asleep” made it difficult. Faculty-6 shared a photo depicting how she felt as though she was always at work and lost a place to come home to:

*“Found in this photo are traces of personal and work life – almost borderless; all cramped into a small studio unit.”*

(Faculty-6, Fig. 3.6)

#### 4.5.3. Interaction and engagement

The absence of active class participation and interactions resulted in students facing more difficulties with group work, communication, receiving feedback and motivation to stay engaged.

Additionally, the lack of two-way interaction made faculty feel like they were “teaching to myself,” “staring and talking to a black hole” and “trying hard to teach a computer,” resulting in low motivation to persevere with online teaching. Faculty-7 shared a photo where her students had their cameras and microphones turned off during discussion to illustrate her frustrations:

*“...But nobody answered, all silent...This is very different from when we were physically [in class], as everyone was very active in participating...I could see their expressions...I feel lonely...”*

(Faculty-7, Fig. 3.7)

#### 4.5.4. Personal and professional growth

For some participants, online education spurred their professional and personal development through the use of digital software. Student-10 illustrated how the limitations of in-person interactions exposed her to telemedicine as a strategy to deliver care:

*“Holding a health talk and leading an exercise session via zoom was new and challenging...the pandemic has better equipped myself with the skill of using digital tools in nursing care.”*

(Student-10, Fig. 3.8)

This was echoed by Faculty-8, who appreciated that online learning enabled her to re-evaluate her teaching pedagogies and deliver higher-quality teaching. She shared the animation created by her in Fig. 3.9

*“...took several courses and visited several websites and aimed to understand more about online learning... all my hard work has paid off since I can provide both synchronous and asynchronous learning... look at this figure, I did it...students were so happy...”*

(Faculty-8, Fig. 3.9)

Additionally, online education instilled discipline and self-directedness in students. Student-11 used a photo to illustrate that she is better able to focus and continue self-learning despite a whole day of lessons:

*“...I have matured a lot, specifically from studying I find myself more active, knowing how to arrange my studies...be more disciplined...”*

#### 4.5.5. The duality of technology

Many participants also expressed frustration when confronted with technical issues during online learning which “greatly affected” their teaching/learning. Faculty-9 recounted an incident where she experienced unpredictable technical issues during her presentation:

*“So, at that time, my technical problem was settled but I don't feel like [continuing], my momentum was already gone...because the time was almost over... I felt terrible...”*

(Faculty-9, Fig. 3.11)

The COVID-19 pandemic also exposed dramatic inequities in technology. Participants living in rural areas and those with lower socioeconomic status were disproportionately affected as they had less access to stable internet connectivity and proper equipment/devices. Student-12 shared a photo encapsulating this unfortunate reality:

*“Sometimes inequities occur based on the family's socioeconomic status. Many children do not have a chance to access basic internet which created a discrepancy.”*

(Student-12, Fig. 3.12)

Overall, compared to face-to-face learning, participants generally perceived online education as a temporary inconvenience and hoped teaching and learning would return to “normal circumstances” or “the way it was.

## 5. Discussion

This study explored the experiences of nursing students and faculty who underwent online education during the COVID-19 pandemic. Participants were undergraduates, postgraduates, and faculty members from five Southeast Asian countries and one city: Indonesia, Malaysia, the Philippines, Thailand, Vietnam, and Hong Kong.

Theme 1 highlighted the psychological impact of the pandemic on participants. Previous research by Lovrić et al. (2020), Wallace et al. (2021) & Suliman et al. (2021) supported our findings that social isolation negatively impacted nursing students' and faculty's mental health, leading to reduced motivation and concentration. These findings also corroborate with Brooks et al. (2020), who reported that rigorous isolation measures are associated with a high prevalence of adverse psychological effects. It was unsurprising that most students and faculty in our study reported being psychologically impacted, as healthcare professionals experienced more severe symptoms of post-traumatic stress compared to the general public when quarantined (Reynolds et al., 2008). Our findings highlight the need for online psychological care and support to help participants better cope with anxiety, loneliness and home learning/teaching challenges.

Participants' reflections also revealed a fear of being infected; both students and faculty were stressed by potentially encountering infected persons unknowingly, which confirmed previous results (Sun et al., 2014; Lovrić et al., 2020) also showed a negative association between exposure to infectious environments and quality of life. These findings highlight the importance for hospital leadership to provide adequate safety protocols and maintain clear lines of communication between students and faculty for assurance.

Theme 2 highlighted the common sources of participant resilience. Similar to Collado-Boira et al. (2020), students in our study identified their professional and moral duty as the primary factor driving their resilience to cope. These findings further substantiated previous results which highlighted that the care for infected/vulnerable patients during the pandemic led nurses to feel proud and connected to team members, which motivated them to continue working on the frontlines (Lovrić

et al., 2020). Faculty reflections revealed feelings of being responsible for the care of students, and this aided them to remain resilient in delivering high-quality nursing education during the pandemic. Surprisingly, previous qualitative studies exploring this phenomenon did not elicit this finding. Our findings concur well with Jones and Kessler (2020), which reiterated that teachers' tendency to care did not diminish during the transition from conventional to online education. Lovrić et al. (2020), Suliman et al. (2021) & Wallace et al. (2021) support our findings highlighting the importance of camaraderie and strong relationships in helping students and faculty overcome difficult circumstances during the pandemic. Our results also align favourably with Leal-Filho et al. (2021), which demonstrated that more socially connected individuals have enlarged reserves of stress-buffering or restorative resources, thus increasing their resilience. Our findings also demonstrated the importance of good student-faculty communication and collaboration to overcome the online education challenges of COVID-19. This involves improving the availability, frequency, and quality of contact/feedback, setting expectations for faculty/student relationship and providing opportunities to meet in-person, face-to-face or synchronously.

Theme 3 highlighted how different aspects of online education were perceived by participants. These findings support those of previous researchers (Bdair, 2021; Masha'al et al., 2020), who found that continuity of learning for practical skills and clinical competencies was significantly affected during online education. As expected, many students in our study experienced feelings of unpreparedness for the transition from student nurses to registered nurses. This is similar to the findings of Masha'al et al. (2020), who found that the poor quality of clinical training received through online education, exponentially increased students' fears of graduating as incompetent nurses, prone to making mistakes.

Simultaneously, participants also appreciated the accessibility of online education. Students were able to learn at their preferred location, time, and pace. These results corroborated Al-Rahmi et al. (2018), who showed that the flexibility and convenience of online media were preferred by higher education students. The majority of faculty who were family caregivers (particularly females) expressed that the blurring of work and personal boundaries reduced their quality of life. This is supported by Kraft et al. (2021), who presented that female faculty caring for children reported significantly reduced productivity and increased psychological distress compared to faculty without children/male faculty. Recent research studies (Lovrić et al., 2020; Bdair, 2021; Suliman et al., 2021; Wallace et al., 2021) supported our findings that many participants experienced non-completion, absenteeism and dissatisfaction related to disengagement. This difficulty is articulated by Delahunty et al. (2014), "online learners, perhaps more so than face-to-face learners, need deliberately orchestrated, multiple opportunities to engage with others so that expression, development, tolerance and recognition of their diverse identities may in part compensate for any lack felt by not having a physical presence" (Delahunty et al., 2014, p. 260).

Our findings also demonstrated that online learning helped students and faculty grow in familiarity and confidence with technology-assisted learning. Additionally, faculty took the transition as an opportunity to revamp their teaching pedagogies. Conversely, and in line with studies by Masha'al et al. (2020), Bdair (2021) & Suliman et al. (2021), our findings revealed that participants living in rural areas and/or with lower socioeconomic status experienced greater learning difficulties. These findings also concurred with Beaunoyer et al. (2020), who highlighted that rural/lower socioeconomic participants generally used outdated devices causing a less satisfying experience, with fewer opportunities to use internet technologies and develop digital literacy.

The majority of faculty members and students felt overwhelmed with the online education experience and hoped for things to return to "normal" post-COVID-19. Our findings contradicted previous qualitative studies exploring this phenomenon (Lovrić et al., 2020; Bdair, 2021),

which found that students and faculty felt moderately satisfied with the experience and found online education an effective alternative. The disparities may be due to the absence of caution in the rapid digitalisation of higher education which caused students and faculty to view their experience as emergency remote teaching rather than effective online education (Adedoyin and Soykan, 2020). Previous qualitative studies were conducted outside Southeast Asia (namely in the USA, Europe and Middle-East), therefore cultural differences, variations in online education technology advancements and population readiness could have resulted in the discrepancies. Future comparative research may consider looking into factors influencing the experiences of nursing students and faculty members with online education across different cultures and geographical regions.

### 5.1. Limitations and future implications

First, due to restrictions as a result of the COVID-19 pandemic, face-to-face interviews with the nursing students and faculty to aid in identifying tone, expression and gestures were not carried out. In these circumstances, interviews over video conference calls would be preferred. Next, as this study only focused on Southeast Asian countries, future studies could explore participants from other countries to better understand the phenomenon. Additionally, the demographic data collected was limited and future researchers should obtain additional information such as marital status, type and location of residence, socioeconomic status, and employment status/position and probe participants further around how these differences may influence their experiences. This will allow for a more in-depth analysis of the within-group differences of experiences of students (e.g., undergraduates versus postgraduates) and faculty members. Lastly, future studies could also consider focusing on triangulating the perspectives of healthcare students, faculty, executives, and administrators to better elucidate the phenomenon. Despite the limitations, the Photovoice mechanism was able to reveal essential concepts and themes that otherwise would not be possible with descriptive qualitative methodology.

Our results emphasised the importance for hospital leadership to establish effective health protocols and clear communication lines between students and faculty performing nursing duties. Additionally, institutions could provide psychological support programmes/packages for students and faculty to cope with social isolation. To reduce the learning inequalities associated with technology, institutions could provide rural/lower socioeconomic students with financial and technological assistance. Lastly, given the concerns shared with fully online education, institutions could consider moving towards a hybrid/blended learning approach to sustain learning progress and goals.

## 6. Conclusion

This study examined the experiences of nursing students and faculty members with online education across Southeast Asia using the Photovoice approach. Our findings revealed that students and faculty felt overwhelmed with their experiences of online education. Participants were satisfied with the flexibility and convenience, opportunities for professional and personal development and safety afforded by online education. However, concerns over academic integrity, practical skills and clinical competencies, engagement and participation, the duality of technology and social isolation out-shadowed the advantages. As online education is likely to persist post-COVID-19, it is worthwhile to consider the concerns shared to enhance nursing education and psychological supports for students and faculty members.

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No ethical approval required for this is a qualitative systematic review.

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## Data availability

All the data have been provided via Supplementary files. Any further information can be requested from the corresponding author via email upon reasonable request.

## Declaration of competing interest

No conflict of interest has been declared by the authors.

## Appendices. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.nedt.2022.105307>.

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