

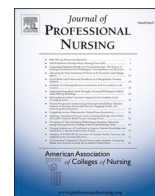


Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

## Journal of Professional Nursing

journal homepage: [www.elsevier.com/locate/jpnu](https://www.elsevier.com/locate/jpnu)

## Clinical learning during the pandemic: Experiences of LPN-BN undergraduate nursing students

Venise Bryan, Lynn Corcoran, Georgia Dewart<sup>\*</sup>, Lorraine M. Thirsk, Erin Bowers

Faculty of Health Disciplines, Athabasca University, 1 University Dr., Athabasca, AB T9S 3A3, Canada

## ARTICLE INFO

## Keywords:

Nursing students  
Undergraduate nursing education  
Clinical education  
COVID-19  
Curriculum  
Qualitative research

## ABSTRACT

**Background:** When the COVID-19 pandemic was declared in March 2020, nursing programs made rapid decisions regarding clinical placement experiences for students. In many nursing programs, this meant ending clinical placements early, delaying clinical courses, and moving clinical courses to simulation.

**Purpose:** The purpose of this study was to explore LPN-BN students' experiences in clinical courses during the COVID-19 pandemic.

**Method:** A qualitative descriptive approach was employed in this study. Fifteen semi-structured conversational interviews with nursing students and recent graduates were conducted. Inductive content analysis was used to analyse the data.

**Results:** Four main concepts were identified: (1) logistics of learning; (2) shifts in clinical learning; (3) mental health matters; (4) readiness to practice.

**Conclusion:** It is important to understand the experience of nursing students as this is an inordinately stressful and impressionable time for them. Insight into the student experience, will inform educators in the areas of curriculum and competency-based evaluation as well as supports for student mental health and well-being.

COVID-19 has disrupted nursing education worldwide; in particular, clinical education has been profoundly impacted. The pandemic caused a shift in the delivery of traditional clinical practicums. Despite the challenges as a result of the pandemic, clinical experience is of importance in the preparation of nursing students prior to entering the nursing workforce (Jesse, 2018).

The goal of undergraduate nursing education is to prepare students to be safe, compassionate, competent, and ethical registered nurses (RNs) through theory and clinical practicum courses (Canadian Nurses Association (CNA), 2017; College of Registered Nurses of Alberta [CRNA], 2019). Nursing programs struggle with a longstanding issue of insufficient clinical placements and the COVID-19 pandemic has further disrupted teaching and learning opportunities. In the face of a changing clinical education landscape, it is important to understand the impact of COVID-19 on the student experience. We present the findings of a qualitative research study exploring the impact of the COVID-19 pandemic on nursing students taking clinical courses designed for the achievement of entry-to-practice competencies.

The setting for this study is a nursing program in Alberta, Canada,

that has been offering a Post-Licensed Practical Nurse (LPN) to Bachelor of Nursing (BN) program in an online learning environment since 2003. LPNs with a minimum of 1700 h of experience engage in theory and clinical learning to earn a BN degree (Athabasca University, 2021). Students from across Canada take online theory courses and in-person clinical courses including medical-surgical nursing and community health nursing. Students travel from their hometowns to an urban center in Alberta to take clinical courses in an immersive format of full time shifts over four weeks. Success in clinical courses is based on students meeting the entry-to-practice competencies developed by the nursing regulatory body in Alberta (CRNA, 2019). At the onset of the pandemic, X University made the decision to remove students from in-person clinical settings (Dewart et al., 2020). This created an opportunity to evaluate the effectiveness of our online teaching and learning practices by seeking feedback from students. The students' personal narratives helped provide insight into the impact of the pandemic on clinical learning and how the future of clinical nursing education may be shaped.

<sup>\*</sup> Corresponding author.

E-mail addresses: [vbryan@athabascau.ca](mailto:vbryan@athabascau.ca) (V. Bryan), [lynn@athabascau.ca](mailto:lynn@athabascau.ca) (L. Corcoran), [gdewart@athabascau.ca](mailto:gewart@athabascau.ca) (G. Dewart), [lthirsk@athabascau.ca](mailto:lthirsk@athabascau.ca) (L.M. Thirsk), [ebowers@athabascau.ca](mailto:ebowers@athabascau.ca) (E. Bowers).

<https://doi.org/10.1016/j.profnurs.2022.07.020>

Received 8 March 2022; Received in revised form 26 July 2022; Accepted 27 July 2022

Available online 11 August 2022

8755-7223/© 2022 Elsevier Inc. All rights reserved.

## Background

The COVID-19 pandemic resulted in numerous changes, including interruptions and disruptions for BN students in their clinical courses. Starting in March 2020, some students experienced a reduction in clinical hours in certain placements, and some clinical courses shifted quickly from in-person to online delivery (Dewart et al., 2020). As the pandemic progressed, some programs returned to clinical settings, however nursing students continued to experience reductions in clinical hours due to regulations related to COVID-19 testing, self-isolation, and fitness to work screening protocols. However, in some settings, clinical courses remained online rather than in-person with patients and clients (Agu et al., 2021). Regardless, the standard of meeting or exceeding entry-level competencies for the practice of RNs remained a regulatory requirement and a pedagogical foundation of our LPN-BN program (CRNA, 2019).

While it is generally accepted that high-quality clinical practice experiences help prepare RN students for the workforce, there is a lack of consensus and empirical evidence regarding the elements of clinical placements that lead to highly competent, workforce-ready nurses (Aloufi et al., 2021; Ford et al., 2016). This lack of consensus and evidence, along with the shifting nature of the health care system, has led to differences in clinical structure among nursing programs, including, but not limited to, the number of hours in clinical placements, the supervision style of students, and the replacement of clinical practice with simulation (Forber et al., 2015; O'Flynn-Magee et al., 2021). Constraints on clinical placements have led to an examination of alternatives for in-person clinical placements in healthcare service areas. Simulation, for example, has been proposed as an alternative to provide quality educational experiences, while decreasing the demand for clinical placements (Forber et al., 2015; International Nursing Association for Clinical Simulation and Learning and the Society for Simulation in Healthcare, 2020).

There have been calls to improve the structure of clinical nursing education to make the transition into nursing practice easier for nursing students and to enable them to feel more prepared to enter the workforce of the complex healthcare environment (Black Thomas, 2022; Hawkins et al., 2019; Kavanagh & Sharpnack, 2021; Simpson & Sawatzky, 2020; Wang et al., 2019). To date, most decisions about the nature and length of clinical placements have been made based on historical decisions and pragmatic constraints of healthcare partners rather than evidence (Kardong-Edgren et al., 2021). Students expressed concerns about changes in curriculum as well as to their academic workload because of the COVID-19 pandemic (Fitzgerald & Konrad, 2021). Yet, the pandemic has also created opportunities to explore alternative clinical course design and further understanding the students' clinical experience.

O'Flynn-Magee et al. (2021, p. 4) stated that “we can either put our effort into trying to maintain the status quo or we can reconceptualize, reorganize, and rethink clinical practice education.” Now is the time for nursing education stakeholders to put effort into changing and improving the product of nursing by learning from the experiences that the pandemic brought on us. During the pandemic, nursing academics had to use creative approaches to advance teaching and learning, through online platforms to meet clinical objectives, such as conducting small-group discussions on therapeutic communication with standardized patients to enable collaborative learning (Seah et al., 2021). We need to document and reflect upon the changes made to clinical courses during the COVID-19 pandemic so nursing educators can learn from the changes, variations, and innovations that occurred. The pandemic has resulted in many studies aimed at understanding student experiences as the clinical nursing education climate shifted (Agu et al., 2021; Aslan & Pekince, 2021; Godbold et al., 2021; Keener et al., 2021; Kerbage et al., 2021; Rodríguez-Almagro et al., 2021; Ulenaers et al., 2021). This study adds to a growing body of knowledge centred on pandemic experiences; however, this research provides a necessary perspective from a unique

student population of LPN-BN learners who were also engaging in online learning prior to the pandemic. Understanding students' experiences is critical to the development of clinical course curriculum (Swift et al., 2020; Ulenaers et al., 2021). Lessons learned during this pandemic will shape the future of nursing education and should be considered by nurse educators and regulatory bodies overseeing nursing education.

## Method

### Study approach, design, and purpose

A qualitative research approach was used in this study. This approach is appropriate for research questions of an open and exploratory nature where depth of understanding is being sought (Tolley et al., 2016). The design for this study was qualitative description; this design is commonly used in health research (Bradshaw et al., 2017). Data was analyzed using inductive content analysis (Elo & Kyngäs, 2008; Kyngäs et al., 2020). Inductive content analysis is suitable for studies where the current body of knowledge is not substantial and where meaning emerges from patterns in the data (Kyngäs et al., 2020; Patton, 2015). The purpose of this study was to explore LPN-BN students' experiences in clinical courses during the COVID-19 pandemic.

### Ethical considerations

Research ethics board approval was obtained from the university in which the research was undertaken. A Research Assistant (RA) external to the LPN-BN program was hired to conduct recruitment. An administrative assistant in the program emailed potential participants and invited them to contact the RA if they were interested in participating in the study. Recruitment materials included a statement that participation would not impact student evaluation or grades. Students were invited to participate after the completion of their clinical course. In addition to recruitment, the RA conducted the interviews. Prior to data collection, the RA obtained informed consent from participants. While some of the researchers taught in the clinical courses, they had no role in recruitment or interviewing for this study. All identifiers were removed from the data by the RA. Interview transcripts were stored on password protected, encrypted computers.

### Sample

The purposive sample for this study included current nursing students and recent graduates of an LPN-BN program at a Canadian university. All participants in this study completed at least one clinical course during the pandemic between March 2020 and May 2021. Most participants experienced a reduction in clinical hours ranging from one to two days with some participants missing one or two weeks of a four week in-person practicum. Some participants had their clinicals shifted entirely online. Simulation was frequently used to replace clinical hours with the goal of students achieving the specific entry-to-practice competencies connected with the clinical course in which they were enrolled. The sample included 15 female participants representing 37 discrete clinical course experiences. Most participants completed two or three clinical courses during the pandemic; all 15 participants had completed their final practicum (see Table 1).

### Data collection

Data were collected using semi-structured conversational interviews. Semi-structured conversational interviews are useful to help with understanding the topic from the participants' perspective and exploring meaning of their experiences (Kvale & Brinkmann, 2009). Interviews of up to 30 min were conducted by the RA using the audio function on a videoconferencing platform. Please see Table 2: Interview Guide. Follow-up interviews were offered; all participants declined.

**Table 1**  
Clinical courses of participants.

Clinical courses	Medical/ surgical nursing clinical	Family/ community health clinical	Final consolidation/ preceptorship clinical practicum
Participants <sup>a</sup>	14	8	15
Term clinical was completed	7 Winter 2020 7 Fall 2020	2 Winter 2020 3 Spring 2020 3 Fall 2020	4 Fall 2020 11 Unknown term <sup>b</sup>

Note.

<sup>a</sup> Some participants completed 2 or 3 courses during the pandemic.

<sup>b</sup> Students reported completing the preceptorship clinical during the interview, but the term was not specified. This may include completion in 2020 or the first term of 2021.

**Table 2**  
Interview guide.

Semi-structured interview questions
<ul style="list-style-type: none"> <li>- What clinical course(s) have you completed since the beginning of the pandemic?</li> <li>- What was it like for you, taking a clinical course/or courses during the pandemic?</li> </ul>
<b>Probes:</b> What were the challenges? What were the benefits? Is there anything else you would like to add about challenges and benefits?
<ul style="list-style-type: none"> <li>- How was your learning affected by the pandemic?</li> <li>- Do you think your clinical experience was affected by the pandemic? If yes, how?</li> <li>- Did you have any disruptions or interruptions in your clinical course(s) during the pandemic?</li> </ul>
<b>Probes:</b> How did these changes affect your learning? What were the impacts of these changes on your learning? When you look back on your clinical experience during the pandemic, how do you feel/think about it?
<ul style="list-style-type: none"> <li>- In your experience, how has doing clinical courses during the pandemic changed the way you think about your future nursing career plans?</li> </ul>
<b>Probes:</b> Do you feel ready to practice after taking your clinicals during the pandemic? Might you require more training from an employer?
<ul style="list-style-type: none"> <li>- The way education is delivered during the pandemic has changed in some positive ways, as well as in ways that may not be ideal. If you were a nurse educator, describe the changes you would make.</li> </ul>

### Data analysis

Interviews were transcribed verbatim using Otter.ai voice to text software. Transcripts were checked for accuracy and de-identified by the RA prior to circulation to the research team. NVivo software was used to manage and organize data. Data were analyzed using inductive content analysis following the three phases of data reduction, data grouping, and formation of concepts (Kyngäs et al., 2020). Inductive content analysis is suitable for studies where the current body of knowledge is limited and meaning emerges from patterns in the data (Elo & Kyngäs, 2008). Open codes were initially identified from the raw data. Sub-concepts, concepts, and main concepts were developed. Five researchers individually worked with the data and then met as a group to discuss and formulate emerging sub-concepts and concepts through an iterative process.

### Trustworthiness

Trustworthiness of the data was established using the criteria of credibility, dependability, confirmability, and transferability (Bradshaw et al., 2017; Kyngäs et al., 2020). Credibility and dependability were strengthened by periodic, scheduled, and recorded meetings of the research team. Decisions were tracked using minutes from these meetings. Analysis and reporting decisions were made through consensus among the research team members. All team members kept reflexive journals to enhance confirmability. A detailed description of both the sample and the context for this study in a BN program were provided to enhance transferability.

## Results

The purpose of this study was to explore LPN-BN students' experiences in clinical courses during the COVID-19 pandemic. Interview data from 15 undergraduate nursing students and recent graduates from an LPN-BN program constituted data for this study. Based on inductive content analysis, four main concepts were developed: (1) logistics of learning; (2) shifts in clinical learning; (3) mental health matters; (4) readiness to practice.

### Main concept #1: logistics of learning

Prior to the onset of the pandemic, our LPN-BN students from across Canada navigated significant logistics to complete clinical courses (e.g., taking time off work, planning time away from family, arranging/financing travel and accommodations). All participants spoke at length regarding the logistics of learning during the COVID-19 pandemic. For these students, the logistical aspects of completing clinical courses were amplified during the pandemic. It is notable that each individual participant, depending on the clinical course, and when they took that course, had a different experience related to how that course was adjusted (e.g., decreased in-person learning hours replaced with simulation hours; removal from a unit for a day or two earlier in the course with addition of these days later in the course).

### Sub-concept: clinical learning logistics

The COVID-19 pandemic resulted in clinical courses being disrupted when individual or groups of students in medical-surgical rotations were removed from a unit because of an outbreak being declared and the protocol that ensued. At the beginning of the pandemic, several acute care clinical courses were delayed for one term which resulted in an interruption of students' anticipated progress through the BN program. Participants spoke of the impact of these clinical learning logistics:

"The challenge was, yeah, just mainly the fact that it was cut short. After the two weeks, they were like, okay no more clinical. That's it. Our instructor was great. She checked in with us to see how we were doing mental health wise. And, you know, getting cut short on clinical can be difficult in regard to how you're going to proceed with the rest of your clinicals. Because lots of people rely on [medical-surgical course] to come and get some of that experience when they go into [final focus clinical course]."

(A10)

"And so, I was supposed to do my final focus originally in [month] ... that's kind of when everything started. So, then it got bumped to [month]. So, then I was like, okay, well, what if I get bumped again, like, when am I ever going to get done this program?" (A3)

"I guess this frustration because I just really wanted to get it done.... I'd prepared so much in [the medical-surgical course]. ...because of the limbo time in between the two clinicals, that I had kind of had to like relearn what I needed to relearn [in the final focus clinical course] ...I felt like instead of maybe progression, I maybe had to start at the bottom again, and work my way up." (A8)

In addition to concerns around progressing through the program another component of logistics to figure out was carving out time and space to study. Participants whose children required supervision as they too engaged in online learning due to the pandemic had more responsibility. One participant shared, "because I'm a mom...I was sharing an office and learning space with my children. I had to rearrange their lives and accommodate their learning. And yeah, share space with them" (A15). Another participant spoke about logistical challenges created by the lockdown providing limited alternatives to access resources and completing learning activities for the online version of the clinical

course:

"The other challenge I faced was the libraries being closed. I have a Mac at home. A lot of Microsoft stuff doesn't work that well on a Mac computer versus a Windows computer. So normally, I don't really think much about it, because I can just go to a public library and access Windows whenever I want." (A9)

#### *Main concept #2: shifts in clinical learning*

The pandemic necessitated shifts in how clinical learning was delivered. Learners needed to adjust to these shifts by learning differently in their clinical courses through simulations, case studies, and skills demonstrations in synchronous and asynchronous online formats. A variety of learning strategies were employed to address the shortfall of in-person clinical hours with the goal of students meeting the entry-to-practice competencies for the practice of RNs (CRNA, 2019). While participants understood the need to change clinical learning delivery due to the pandemic, they overwhelmingly favored in-person clinical courses. For example, one participant stated,

"It is not the same as actually going in person to go do a clinical and working with patients and doing that kind of stuff. We did [case studies] with our instructors and it was good. But it's not the same as actually having hands on work with an instructor." (A1)

Another participant looked beyond the pandemic and stated:

"Please don't continue the clinicals with more online stuff versus less practical stuff after the pandemic. I know during the pandemic, it's a limitation that we have to live with... But I don't want this to be continued in the future when we are done with the pandemic and we are back to normal, per se. I would like the future learners to get that in person experience [instead of] the simulation exercises or the more online stuff." (A9)

#### *Sub-concept: understanding the need to learn differently*

Despite the overwhelming preference for in-person clinical experience, participants understood that the conditions for learning were not optimal, and that the pandemic necessitated different strategies. Although online clinical courses were not preferred, participants admitted that valuable learning was still achieved. For example, participants shared:

"But I mean, it worked out really well, online, too. I learned a lot. So, they made it the best they can. They did skills demonstrations... So, I mean, we made it work, like it was the best-case scenario, given the circumstances." (A6)

"I still feel like it was a great learning experience...I still feel it was a good learning experience. I don't necessarily feel like I missed out. I just learned different things than I expected." (A5)

#### *Main concept #3: mental health matters*

Participants spoke at length about feelings of anxiety, uncertainty, frustration, nervousness, worry, and being overwhelmed while engaging in clinical learning during the pandemic. They also mentioned burnout, panic, being terrified, "absolutely petrified" and "on edge". Fear and stress emerged as sub-concepts of mental health matters main concept.

#### *Sub-concept: fear*

At the beginning of the pandemic, much was unknown about COVID-19 and its transmission, and this caused participants to be fearful of being exposed to/contracting COVID-19 and transmitting it to family and friends. A participant shared:

"The whole feeling you have that you contracted it and you bring it home. I'm a new mom and my baby was two months old when I did [the medical-surgical] clinical. So I was really scared of going into a COVID environment and then coming home and nursing my baby." (A9)

Students also feared not progressing/completing the BN program as planned. One student stated:

"It was kind of crazy...It was when things were really bad...There were a lot, just so many unknowns...I think for me, the biggest thing was, what if our unit goes on outbreak? Are we pulled off the unit? And then what happens? What if I had a COVID symptom and had to miss two weeks? So, I just felt like the whole time, I was on edge, worried, like am I going to get through the final focus [clinical course]?" (A3)

#### *Sub-concept: stress*

It was a stressful period for the students and participants spoke about stress pertaining to work, finances, housing, and travel. Considering participants in the study were LPNs who were actively working on the frontline during the pandemic they had many stressors and difficult decisions to make with little information as COVID-19 was new. For example, participants shared:

"Um, I'd say it was pretty stressful. I mean, I think school and being a student is stressful already. But with all the information coming out, I know, I was planning to work while I was doing my clinical... If my place of work was to go on outbreak and I was working during that time that I would be pulled from the clinical. And I could potentially fail. So, I had to not work at all during my clinical, which definitely took a financial toll." (A12)

"It was actually pretty stressful just because of the unknown, especially in community health clinical. Just because COVID was just coming into Canada and there were a lot of unknowns at that time. I didn't know if we were going to be able to like, finish that clinical...So yeah, it was lots of stress." (A13)

#### *Main concept #4: readiness to practice*

Despite the challenges encountered by participants, nursing students and graduates stated that they felt ready to practice. Their learning in clinical courses was deemed sufficient. One participant shared:

"Yes, I do. I do feel like I'm ready. Even with all what happened within the past year and earlier this year, with all the restrictions. I think I still feel like I learned enough. I learned as much as I need to, to be able to graduate. Yeah, I don't think I lacked in some areas because of COVID. If anything, it was just a little bit more of the experience in the field... I think I've learned enough." (A7)

Another reported an increase passion for the profession of nursing, and this could be understood as our participants were actively nursing as practicing LPNs in the midst of the pandemic. The student shared:

"If anything, it made me more passionate about nursing in a way... I always felt like whatever I do as a nurse, it really helps people and has an impact on their life.... Working through the pandemic has strengthened that feeling for me...For me, it has made me more passionate and more interested in the work that I do." (A9).

The participants highlighted how they had to adjust to a new way of clinical learning as some courses were shifted from in-person to online delivery; students navigated the logistics that came with that transition. For students whose clinical courses were disrupted or who were initially doing in-person clinical courses, there was ongoing uncertainty. Students needed to be nimble to shift to online learning. All this contributed

to feelings of stress, burnout, and being overwhelmed. Despite all the challenges encountered, participants reported being ready to practice and the pandemic showed students how important nurses are to the healthcare system.

## Discussion

COVID-19 has profoundly impacted and will continue to impact nursing students' clinical learning experiences (Dewart et al., 2020; Godbold et al., 2021; Ulenaers et al., 2021). Nurse educators must listen to and acknowledge the voices of students, so our practice mirrors the current and emerging educational concerns of nursing students in all clinical practice areas. The LPN-BN students in this study spoke about the impact of the COVID-19 pandemic on their clinical experiences around the themes of logistics of learning, shifts in clinical learning, mental health matters, and readiness to practice.

The logistics of clinical learning during the COVID-19 pandemic are complex and continue to unfold. Understandably, disruptions and interruptions of in-person learning coupled with an abrupt pivot to online and simulated clinical learning forced both health and education systems to adjust continually. In this study, participants demonstrated a preference for in-person clinical learning but understood that COVID-19 restrictions necessitated online learning alternatives such as virtual simulations and case studies. Pivoting to alternative learning modalities was not specific to the Canadian context as many nursing programs across the globe had to shift to virtual simulation, use of video, and live virtual lab meetings to achieve skill acquisition and entry-to-practice competence to practice as a nurse (Agu et al., 2021).

Participants spoke about the shifts in clinical learning and the use of simulation and other virtual teaching strategies contributed to them learning differently. Simulation was an integral tool for nurse educators during the pandemic so much so that the *International Nursing Association for Clinical Simulation and Learning* and the *Society for Simulation in Healthcare* (2020) have called on regulatory bodies to consider virtual simulation as clinical experience rather than recognizing it only as a complement to clinical teaching paired with in-person clinical placements. However, the participants in our study recognized that, due to the pandemic, online modalities such as virtual simulation played a role, but should not be used to replace in person clinical as this was essential to solidifying nursing competence. Students adapted to online clinical learning out of necessity (Godbold et al., 2021) and a strong desire to progress through the BN program and graduate but did not recommend online clinicals for the future.

Mental health issues arose as students felt overwhelmed, burnout, fearful, and stressed. Other studies have reported similar feelings of increased stress and fear among students during the pandemic (Aslan & Pekince, 2021; Rodríguez-Almagro et al., 2021). While some anxiety can provide fertile conditions for learning, too much stress and anxiety inhibit learning (Simpson & Sawatzky, 2020; Wang et al., 2019). For these reasons, nurse educators need to remain cognizant of the mental health of students, especially those in clinical courses during the pandemic. One challenge to addressing mental health concerns such as stress and anxiety is that learning is occurring in two systems, a university, and the health system (Aloufi et al., 2021). Despite this challenge (or because of it) it is important for nurse educators at all levels to tackle this issue with their respective lenses and expertise (Agu et al., 2021). The pandemic has created opportunity for us to change the stressful culture of clinical nursing education and move towards creating a nurturing learning environment for students, as participants in our study appreciated informal check-ins from nursing instructors via group text and mass email to offer support and encouragement. Black Thomas (2022) found that the cohort structure of nursing education programs may support academic success through a sense of belonging. We have learned that online group discussion forum postings at regular intervals (e.g., weekly) related to health, well-being, and self-care could be strategically posted by a nursing instructor to the cohort of students as a

means of support. It is also important for clinical instructors to recognize signs of overwhelming feelings in an individual student and offer appropriate support/resources (Godbold et al., 2021).

The impact of the pandemic on the mental health of nursing students is evident, and it is important to note that the conditions of the pandemic have provided some grounds for positive outcomes. The findings in this study indicated that students and new graduates felt ready to practice regardless of how the entry-to-practice competencies were developed in their respective clinical courses, whether it was through in-person, on-line, or blended learning. We acknowledge that many of our students were already practicing as LPN, but the aim of the LPN-BN program is to prepare students to become autonomous health care practitioners, scaffolding from a base of LPN knowledge to that of a BN graduate and RN. For the participants in this study readiness to practice meant clinical learning whether it be in-person, online, or blended provided opportunity for them to develop and improve technical skills, skills in problem solving complex nursing issues, time management, and documentation (Ford et al., 2016). Thus, the students felt they were advancing from the LPN to RN scope to meet the needs of the increasing complexity of clients by moving away from task-oriented practice to increased critical thinking. Thereby, developing self-efficacy, self-confidence, and increased role autonomy (Huun et al., 2021).

Nursing students' readiness to practice was also seen in Appalachia where students reported being effectively prepared for clinical practice through online learning and their quality of life improved as students achieved academic success and developed self-efficacy to nurse during a demanding period of healthcare (Keener et al., 2021). Even more applicable to our participants, who are working LPNs, Kerbage et al. (2021) found that nursing students who were employed were better able to adapt during the pandemic than students who were unemployed. For our participants the pandemic reinforced why they are nurses and rekindled their passion for the nursing profession and provision of safe patient care.

## Limitations

It is of utility to address the limitations of this research. This study was conducted at one BN program at a university in Canada. There were no study participants identifying as male. The participants in this study were actively working as LPNs during the pandemic, often in acute care, in addition to completing their BN studies. It is possible (and likely) that their experiences as LPNs influenced their perspectives and their responses to the interview questions. Evolving issues over the time of the students' clinical course work likely had some impact on the experiences of participants. Because of inequities in vaccine availability across the world, variations in public health and government responses, and differences in health and education systems globally, this research might not transfer beyond contexts that vary significantly from Canada. Nevertheless, this research contributes to an understanding of student learning in a clinical environment and our findings are transferable across a wide range of contexts that are like the Canadian milieu.

## Implications for nursing education

As nurse educators, we have learned that the pandemic brought about tremendous stress and negative emotions for nursing students, as they had to adapt to learning differently and navigating the required logistics of learning to successfully demonstrate achieving the entry-to-practice competences of the RN rather than merely meeting required clinical practicum hours. While anticipating what might happen next in a crisis such as the COVID-19 pandemic is challenging, the lessons learned can lead to program improvement far beyond the pandemic. When faculty and clinical instructors have planned "next steps" (e.g., simulation hours replacing missed clinical time) it is important to communicate the plan with students clearly and in a timely manner. In addition, while students were somewhat optimistic about learning

differently, nurse educators should make a deliberate effort to clarify assessment strategies and attach these strategies to the entry-to-practice competencies. In this way, students are shown the connection between the learning activities and meeting the competencies. Clear communication and clarity around assessment can mitigate some of the stress and anxiety inherent in clinical learning. In addition, in terms of the mental well-being of nursing students, educators should normalize nurturing one's mental health and encourage help-seeking behaviors by reminding students face-to-face and online communication (e.g., group/individual emails, forum posts) of the resources available at their post-secondary institution.

In this study, providing students with a nurturing and supportive environment facilitated a sense of readiness to practice as students met the challenges the pandemic presented. Nurse educators, particularly clinical instructors along with their students were required to be flexible regarding rapid and ongoing changes in policies and procedures. The responsiveness of our program during this crisis was integral to facilitating nursing students program completion. Students were supported in creative ways through online teaching and learning strategies to meet competencies. Having a strategy to ensure continual preparation of workforce ready graduates is especially important as we now face a nursing shortage, burnout, and attrition. Although online teaching and learning strategies were helpful in navigating the pandemic, students were clear that in-person clinical practicum was both preferred and essential.

## Conclusion

The study explored LPN-BN students' experiences of completing clinical practicum during the COVID-19 pandemic. The students highlighted challenges the pandemic created for them around navigating logistics of learning, learning differently due to shifts in clinical learning delivery mode, and the mental health issues that were created such as fear, stress, and burnout. Overall, students felt support from instructors contributed to readiness to practice. The pandemic presented an inordinately stressful and impressionable time for students. Insight from the students' experiences showed that nursing educators must be flexible in meeting the objectives of the curriculum and competency-based evaluation in identifying varying modes of assessment to assist students to successfully complete their program of study and feel ready to practice. While the COVID-19 pandemic has disrupted and strained nursing programs, it has also provided a unique opportunity for the culture of clinical nursing education to shift. If educators can build on the lessons learned from students, there are options to foster support through more regular check ins, and to enhance student success in an unfamiliar context of online and blended clinical learning delivery. Focusing upstream on how nurse educators are listening to and acknowledging the emerging needs of students and recent graduates including substantively supporting nursing students in clinical courses is an important step towards sustaining the future of nursing.

## Acknowledgment

This research was made possible through Athabasca University Academic Research Funding. We would also like to acknowledge and thank the nursing students who participated in the study for sharing their perspectives.

## References

- Agu, C. F., Stewart, J., McFarlane-Stewart, N., & Rae, T. (2021). COVID-19 pandemic effects on nursing education: Looking through the lens of a developing country. *International Nursing Review*, 68(2), 153–158. <https://doi.org/10.1111/inr.12663>
- Aloufi, M. A., Jarden, R. J., Gertz, M., & Kapp, S. (2021). Reducing stress, anxiety and depression in undergraduate nursing students: Systematic review. *Nurse Education Today*, 102, Article 104877. <https://doi.org/10.1016/j.nedt.2021.104877>
- Aslan, H., & Pekince, H. (2021). Nursing students' views on the COVID-19 pandemic and their perceived stress levels. *Perspectives in Psychiatric Care*, 57(2), 695–701. <https://doi.org/10.1111/ppc.12597>
- Athabasca University. (2021). <https://www.athabasca.ca/calendar/undergraduate/program-regulations/degrees/nursing-degrees.html>
- Black Thomas, L. M. (2022). Stress and depression in undergraduate students during the COVID-19 pandemic: Nursing students compared to undergraduate students in non-nursing majors. *Journal of Professional Nursing*, 38, 89–96. <https://doi.org/10.1016/j.profnurs.2021.11.013>
- Bradshaw, C., Atkinson, S., & Doody, O. (2017). Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research*, 4, Article 2333393617742282. <https://doi.org/10.1177/2333393617742282>
- Canadian Nurses Association (CNA). (2017). *CNA code of ethics for registered nurses*. <https://www.cna-aic.ca/en/nursing/regulated-nursing-in-canada/nursing-ethics>
- College of Registered Nurses of Alberta (CRNA). (2019, March). *Entry-level competencies for the practice of registered nurses*. <https://nurses.ab.ca/media/5ndpyfar/entry-level-competencies-for-the-practice-of-registered-nurses-mar-2019.pdf>
- Dewart, G., Corcoran, L., Thirsk, L., & Petrovic, K. (2020). Nursing education in a pandemic: Academic challenges in response to COVID-19. *Nurse Education Today*, 92, Article 104471. <https://doi.org/10.1016/j.nedt.2020.104471>
- Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115. <https://doi.org/10.1111/j.1365-2648.2007.04569.x>
- Fitzgerald, A., & Konrad, S. (2021). Transition in learning during COVID-19: Student nurse anxiety, stress, and resource support. *Nursing Forum*, 56(2), 298–304. <https://doi.org/10.1111/nuf.12547>
- Forber, J., DiGiacomo, M., Davidson, P., Carter, B., & Jackson, D. (2015). The context, influences and challenges for undergraduate nurse clinical education: Continuing the dialogue. *Nurse Education Today*, 35(11), 1114–1118. <https://doi.org/10.1016/j.nedt.2015.07.006>
- Ford, K., Courtney-Pratt, H., Marlow, A., Cooper, J., Williams, D., & Mason, R. (2016). Quality clinical placements: The perspectives of undergraduate nursing students and their supervising nurses. *Nurse Education Today*, 37, 97–102. <https://doi.org/10.1016/j.nedt.2015.11.013>
- Godbold, R., Whiting, L., Adams, C., Naidu, Y., & Pattison, N. (2021). The experiences of student nurses in a pandemic: A qualitative study. *Nurse Education in Practice*, 56, Article 103186. <https://doi.org/10.1016/j.nepr.2021.103186>
- Hawkins, N., Jeong, S., & Smith, T. (2019). Coming ready or not! An integrative review examining new graduate nurses' transition in acute care. *International Journal of Nursing Practice*, 25(3), Article e12714. <https://doi.org/10.1111/ijn.12714>
- Huun, K. M., Kummerow, A., & Jenkins, J. T. (2021). Educating and transitioning a diverse nursing workforce: LPN to BSN. *The Journal of Continuing Education in Nursing*, 52(12), 558–564. <https://doi.org/10.3928/00220124-20211108-07>
- International Nursing Association for Clinical Simulation and Learning and the Society for Simulation in Healthcare. (2020). *Use of virtual simulation during the pandemic. Position statement 30 March*. Available at <https://www.ssih.org/COVID-19-Update/ID/2237/COVID19-SSHINACSL-Position-Statement-on-Use-of-Virtual-Simulation-during-the-Pandemic>. (Accessed 10 November 2021).
- Jesse, M. A. (2018). Pursuing improvement in clinical reasoning: The integrated clinical education theory. *Journal of Nursing Education*, 57(1), 7–13. <https://doi.org/10.3928/01484834-20180102-03>
- Kardong-Edgren, S., Foisy-Doll, C., Leighton, K., Sharpnack, P. A., McNelis, A. M., & Kavanagh, J. M. (2021). Evidence vs. eminence: Clinical hours in nursing education. *Journal of Professional Nursing*, 37(5), A1–A2. <https://doi.org/10.1016/j.profnurs.2021.07.008>
- Kavanagh, J. M., & Sharpnack, P. A. (2021). Crisis in competency: A defining moment in nursing education. *OJIN: The Online Journal of Issues in Nursing*, 26(1). <https://doi.org/10.3912/OJIN.Vol26No01Man02>
- Keener, T. A., Hall, K., Wang, K., Hulsey, T., & Piamjariyakul, U. (2021). Quality of life, resilience, and related factors of nursing students during the COVID-19 pandemic. *Nurse Educator*, 46(3), Article 143-14. <https://doi.org/10.1097/NNE.0000000000000969>
- Kerbage, S., Garvey, L., Willetts, G., & Olosoji, M. (2021). Undergraduate nursing students' resilience, challenges, and supports during corona virus pandemic. *International Journal of Mental Health Nursing*, 30(S1), 1407–1416. <https://doi.org/10.1111/inm.12896>
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* (2nd ed.). Sage.
- Kyngäs, H., Mikkonen, K., & Kaariainen, M. (2020). *The application of content analysis in nursing science research*. Springer.
- O'Flynn-Magee, K., Hall, W., Segaric, C., & Peart, J. (2021). Guest editorial: The impact of Covid-19 on clinical practice hours in pre-licensure registered nurse programs. *Teaching and Learning in Nursing*, 16(1), 3. <https://doi.org/10.1016/j.teln.2020.07.007>
- Patton, M. Q. (2015). *Qualitative Research and Evaluation Methods* (4th ed.). Thousand Oaks, CA: Sage Publications.
- Rodríguez-Almagro, J., Hernández-Martínez, A., Romero-Blanco, C., Martínez-Arce, A., Prado-Laguna, M. D. C., & García-Sánchez, F. J. (2021). Experiences and perceptions of nursing students during the COVID-19 crisis in Spain. *International Journal of Environmental Research and Public Health*, 18(19), 10459. <https://doi.org/10.3390/ijerph181910459>
- Seah, B., Ang, E. N. K., Liaw, S. Y., Lau, S. T., & Wang, W. (2021). Curriculum changes for pre-registration nursing education in times of COVID-19: For the better or worse? *Nurse Education Today*, 98, Article 104743. <https://doi.org/10.1016/j.nedt.2020.104743>

- Simpson, M. C. G., & Sawatzky, J. A. V. (2020). Clinical placement anxiety in undergraduate nursing students: A concept analysis. *Nurse Education Today*, 87, Article 104329. <https://doi.org/10.1016/j.nedt.2019.104329>
- Swift, A., Banks, L., Baleswaran, A., Cooke, N., Little, C., McGrath, L., Meechan-Rogers, R., Neve, A., Rees, H., Tomlinson, A., & Williams, G. (2020). COVID-19 and student nurses: A view from England. *Journal of Clinical Nursing*, 29(17–18), 3111–3114. <https://doi.org/10.1111/jocn.15298>
- Tolley, E. E., Ulin, P. R., Mack, N., Robinson, E. T., & Succop, S. M. (2016). *Qualitative methods in public health: A field guide for applied research* (2nd ed.). John Wiley & Sons.
- Ulenaers, D., Grosemans, J., Schrooten, W., & Bergs, J. (2021). Clinical placement experience of nursing students during the COVID-19 pandemic: A cross-sectional study. *Nurse Education Today*, 99, Article 104746. <https://doi.org/10.1016/j.nedt.2021.104746>
- Wang, A. H., Lee, C. T., & Espin, S. (2019). Undergraduate nursing students' experiences of anxiety-producing situations in clinical practicums: A descriptive survey study. *Nurse Education Today*, 76, 103–108. <https://doi.org/10.1016/j.nedt.2019.01.016>