Original Paper

# Exploring Educators' Perceptions and Experiences of Online Teaching to Foster Caring Profession Students' Development of Virtual Caring Skills: Sequential Explanatory Mixed Methods Study

Lorelli Nowell[1], PhD; Sonja Johnston[2], PhD; Sara Dolan[1], PhD; Michele Jacobsen[2], PhD; Diane L Lorenzetti[3], PhD; Elizabeth Oddone Paolucci[3], PhD

[1]Faculty of Nursing, University of Calgary, Calgary, AB, Canada

[2]Werklund School of Education, University of Calgary, Calgary, AB, Canada

[3]Cumming School of Medicine, University of Calgary, Calgary, AB, Canada

**Corresponding Author:**
Lorelli Nowell, PhD
Faculty of Nursing
University of Calgary
2500 University Dr NW
Calgary, AB, T2N 1N4
Canada
Phone: 1 4036209822
Email: lnowell@ucalgary.ca

## Abstract

**Background:** Professionals in caring disciplines have been pivotal in advancing virtual care, which leverages remote technologies to deliver effective support and services from a distance. Educators in these caring professions are required to teach students the skills and competencies needed to provide high-quality and effective care. As virtual care becomes more integral, educators must equip students in these fields with both interpersonal and technological skills, bridging traditional hands-on learning with digital literacy. However, there is a gap in evidence exploring educators' perceptions and experiences of teaching caring profession students about virtual caring skills within online environments.

**Objective:** This study aims to better understand caring profession educators' online teaching experiences to foster student development of virtual caring skills and competencies.

**Methods:** We used a sequential explanatory mixed methods approach that integrated a cross-sectional survey and individual interviews with educators from caring professions to better understand caring professional educators' online teaching experiences to foster student development of virtual caring skills and competencies. The survey's primary objectives were to examine the various elements of existing

skills by offering educator insights and suggestions for improved teaching and learning strategies in caring professions' programs. As educational practices evolve, future research should explore how traditionally in-person educators can effectively teach virtual caring skills across diverse contexts.

***(JMIR Nursing 2025;8:e64548)*** doi: 10.2196/64548

**KEYWORDS**

health care education; virtual care; telehealth; online teaching; mixed methods study; student; teaching; virtual caring skills; cross-sectional survey; interview

## Introduction

### Background

Professionals in caring fields, including educators, physicians, nurses, and social workers, have played a crucial role in the ongoing development of virtual care where remote information technologies are used to ensure quality and effective care. The shift to virtual care has paved the way for innovative approaches to delivering care services, such as online teaching; remote health care and social services; and remote

findings, ultimately forming interpretations from the integrated findings.

## Sample and Participants

Voluntary participation was sought from educators in caring professions, including education, medicine, nursing, and social work (including those cross appointed to arts and veterinary medicine) across a midsized research-intensive institution in western Canada. Any self-reported educators from the abovementioned faculties were included in the study. No completed surveys or interviews were excluded.

## Data Collection

We crafted a survey using established methods as outlined by Rattray and Jones [25]. The survey's primary objectives were to examine the various elements of existing e-learning opportunities, delve into educators' perspectives and encounters with these opportunities, and identify the factors that either facilitated or hindered online teaching practices to support students in developing virtual caring skills and competencies. The survey encompassed a combination of Likert scale, closed-ended, and open-ended questions, covering demographics, experiences, instructional methods, satisfaction levels, technology use, effectiveness, and readiness. To ensure the survey's validithirtu0.294 Tm(els, )Tj829.294 Tm(alid1 0 0 1 210.14 4352.536 490.294id1 0 0 1 210.bo07 562.294 Tm((elem1 0 0 1 8

participant, and the data were aggregated accordingly. No compensation was provided to participants for participating in this study.

### Rigor

We used several techniques to ensure the rigor of our study. Regular team meetings provided opportunities for debriefing, introspection, and deliberate questioning of our interpretations, as suggested by Morse [33]. We maintained a comprehensive audit trail that included codebooks, meeting minutes, and shared files to document all study-related decisions, following the guidelines proposed by Carnevale [34]. While 2 researchers were responsible for coding all qualitative data, the broader research team assessed and deliberated on decisions related to themes and subthemes. We revisited the raw survey and interview data to further validate our findings and ensure that they authentically represented the voices of the educator participants.

## Results

### Participant Demographics

A total of 82 educators started the survey, and 72 (88%) completed the entire survey. The 10 (12%) participants who did not complete the entire survey completed up to the final 5 survey items. We included all responses provided by participants in our final analysis as they yielded valuable insights and contributed to our overall study findings. Of the 82 survey participants, 19 (23%) agreed to be contacted for a follow-up interview of which 8 (10%) responded and completed an interview. Table 1 provides participant demographics for the survey and interviews.

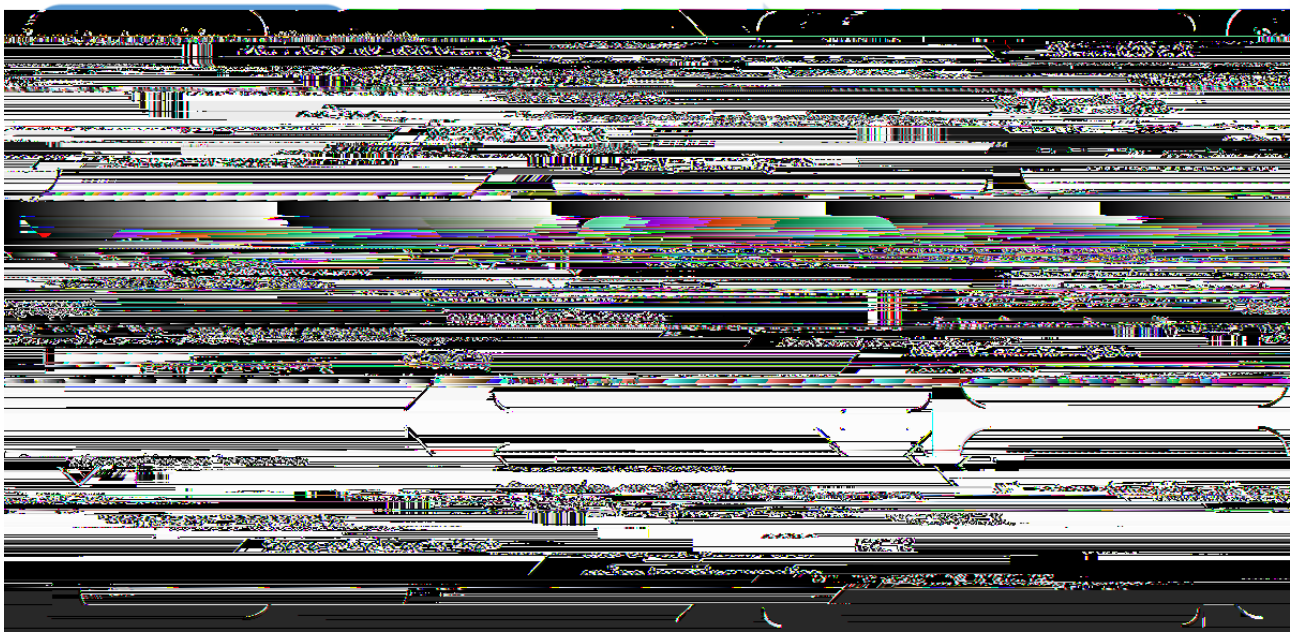
**Table 1.** Participant demographics.

| Demographic and demographic subcategory | Survey (n=82), n (%) | Interview (n=8), n (%) |
|---|---|---|
| **Age (y)** | | |
| <39 | 11 (13) | 0 (0) |
| 40-49 | 25 (30) | 1 (13) |
| 50-59 | 29 (35) | 3 (38) |
| >60 | 16 (20) | 4 (50) |
| No response | 1 (1) | 0 (0) |
| **Gender** | | |
| Men | 18 (22) | 2 (25) |
| Women | 58 (71) | 6 (75) |
| Gender diverse | 6 (7) | 0 (0) |

demTm(Gender)Tj/F1 8.5 Tf1 0 3.943 Tm(0 F 0 0 1 59.229 799 63.943 Tm(0 aculty3 Tm(2 )Tj1 0 0 1 425.367 4103 0 1 46.52 8))Tj1 0 0 1 281.22832.943 Tm(No 9 )Tj1 0

indicated that they have not used any online instructional methods to develop virtual caring skills (17/82, 21%).

**Figure 1.** Overview of themes, subthemes, and implications.



### *Satisfaction With Online Teaching and Learning Strategies*

Survey participants (n=80) reported their level of satisfaction with online teaching and learning strategies, with 71 (89%) participants indicating that they were either satisfied or somewhat satisfied with the approaches used in their classrooms. However, a notable proportion, approximately 11% (9/80) of the participants, reported dissatisfaction.

### *Likelihood of Using Online Teaching and Learning Tec*

that there was no statistically significant difference in the likelihood of using online teaching and learning technologies and years of experience ($H_5$=3.956; $P$=.56).

**Table 2.** ANOVA test results.

| Variable comparison | Descriptive statistics | | ANOVA | | |
|---|---|---|---|---|---|
| | Participants, n (%) | Mean (SD) | *F* test (*df*) | $\eta^2$ | *P* value |
| **Gender and satisfaction (n=80)** | | | 1.38 (2, 77) | 0.04 | .26 |
| Men | 18 (23) | 2.11 (0.68) | | | |
| Women | 56 (70) | 2.39 (0.65) | | | |
| Gender diverse | 6 (8) | 2.17 (0.75) | | | |
| **Age (y) and satisfaction (n=80)** | | | 0.31 (3, 74) | 0.01 | .82 |
| 0-39 | 10 (13) | 2.40 (0.52) | | | |
| 40-49 | 25 (31) | 2.24 (0.66) | | | |
| 50-59 | 29 (36) | 2.28 (0.80) | | | |
| >60 | 14 (18) | 2.43 (0.51) | | | |
| **Faculty and satisfaction (n=80)** | | | 5.12 (4, 75) | 0.21 | .001 |
| Education | 20 (25) | 2.75 (0.44) | | | |
| Medicine | 34 (43) | 2.13 (0.64) | | | |
| Nursing | 15 (19) | 2.07 (0.70) | | | |
| Social work | 7 (9) | 2.71 (0.49) | | | |
| Other | 4 (5) | 2.00 (0.82) | | | |
| **Experience (y) and satisfaction (n=80)** | | | 0.99 (5, 74) | 0.06 | .43 |
| <1 | 5 (6) | 2.20 (0.84) | | | |
| 1-5 | 28 (35) | 2.39 (0.63) | | | |
| 6-10 | 21 (26) | 2.43 (0.68) | | | |
| 11-15 | 12 (15) | 2.33 (0.65) | | | |
| 16-20 | 5 (6) | 1.80 (0.84) | | | |
| >20 | 9 (11) | 2.11 (0.60) | | | |
| **Online experience and satisfaction (n=80)** | | | 11.46 (2, 77) | 0.23 | <.001 |
| Beginner | 34 (42) | 2.06 (0.69) | | | |
| Intermediate | 24 (30) | 2.21 (0.59) | | | |
| Expert | 22 (28) | 2.82 (0.39) | | | |
| **Gender and likelihood to use (n=70)** | | | 1.68 (2, 67) | 0.05 | .20 |
| Men | 14 (20) | 2.07 (0.92) | | | |
| Women | 52 (74) | 2.38 (0.80) | | | |
| Gender diverse | 4 (6) | 1.75 (0.96) | | | |
| **Age (y) and likelihood to use (n=70)** | | | 0.28 (3, 36) | 0.01 | .84 |
| 0-39 | 6 (9) | 2.50 (0.55) | | | |
| 40-49 | 22 (31) | 2.18 (0.91) | | | |
| 50-59 | 26 (37) | 2.35 (0.89) | | | |
| >60 | 14 (20) | 2.29 (0.73) | | | |
| **Online experience and likelihood to use (n=70)** | | | 1.92 (2, 67) | 0.05 | .16 |
| Beginner | 27 (39) | 2.11 (0.89) | | | |
| Intermediate | 22 (31) | 2.23 (0.81) | | | |
| Expert | 21 (30) | 2.57 (0.75) | | | |

## Qualitative Findings

### *Overview*

Figure 1 offers a summary of 3 overarching themes and their associated 12 subthemes, which were identified when analyzing the qualitative data. It also highlights potential recommendations for supporting online teaching to enhance the development of virtual caring skills.

One survey respondent identified the following:

> *I can't see faces or check in with people who might show signs of confusion the same way I can in person. You can't "read the room" online.* [P23, survey, medical educator]

### *Limited Access to Virtual Caring Equipment and Technology*

Educators expressed concerns about the limited access to virtual caring equipment and technology, which had a detrimental impact on interactivity. For one educator in medicine, the lack of equipment was an ongoing challenge:

> *I would say that the interaction suffered. We struggled with not having enough private computer space in the hospital. We struggled with not having cameras for the learners, and microphones, and that went on for quite a while.* [P8, interview, medicine educator]

For a nursing educator, the lack of student internet access was a challenge in teaching virtual care and creating environments for students to practice their virtual caring skills:

> *And there was one student who had to do [Zoom] on [their] cell phone, and she was using her minutes on her phone. It was getting too expensive. It was so much better if [they] just didn'*

Furthermore, survey participants asserted that ongoing technical assistance was important to successfully integrate new technologies into the virtual caring curriculum. One survey participant commented on the

These principles include

engaging in this mode of teaching and learning as well as identified key principles underlying virtual caring.

Quantitative and qualitative data were integrated following individual analysis. The most common online instructional methods used to teach virtual caring skills were reflection, online modules, and online discussion boards. Only 26% (21/80) of the participants indicated that they provided experiential learning via consultation with clients on the quantitative survey. In qualitative interviews, participants discussed barriers to this educational modality, such as lack of time, indicating that providing virtual caring experiences could be less efficient than providing in-person clinical learning. Furthermore, 21% (17/80) of the educators indicated that they had not used online technology to teach virtual caring skills. This was reflected in the qualitative data when participants discussed the challenges of fitting more content into an already crowded curriculum. As virtual environments increase in the caring professions, it is important that virtual caring curriculum becomes a more permanent fixture within program curricula [35], rather than treated as a specialty consideration that can be included if time permits. This highlights the attention for program-level considerations for technological literacy and use development. It is not enough for educators to be able to use the technology effectively and use tools in one course; instead, there

virtual caring equipment and technology. Time constraints may pose a significant challenge for educators as they strive to cover comprehensive content within limited time

## Conflicts of Interest

None declared.

## References

1. Bogo M. Field education for clinical social work practice: best practices and contemporary challenges. Clin Soc Work J. Mar 18, 2015;43(3):317-324. [FREE

*Edited by E Borycki; submitted 19.07.24; peer-reviewed by D Patel, S Otero; comments to author 23.09.24; revised version received 11.11.24; accepted 28.11.24; published 15.01.25*

*Please cite as:*
*Nowell L, Johnston S, Dolan S, Jacobsen M, Lorenzetti DL, Oddone Paolucci E*
*Exploring Educators' Perceptions and Experiences of Online Teaching to Foster Caring Profession Students' Development of Virtual Caring Skills: Sequential Explanatory Mixed Methods Study*
*JMIR*