Nursing Students' Dissatisfaction With Course Organization and Student Engagement in Remote Learning 1 Year Post-COVID-19 Restrictions

Amy S. Bowser, PhD, MEd; Megan A. Kazakoff, BSN, RN; Paul W. Scott, PhD; and Jacqueline Dunbar-Jacob, PhD, RN, FAAN

ABSTRACT

Background: Undergraduate and doctoral nursing students enrolled in face-to-face (F2F) learning transitioned abruptly to remote learning in March 2020. Few studies have focused on these nursing students' satisfaction with remote learning a year after the unplanned transition.

Purpose: Undergraduate and doctoral students' satisfaction with remote and F2F learning regarding course organization and student engagement were examined.

Methods: A cross-sectional descriptive study was conducted among 522 nursing students at a research intensive university in the eastern United States. Survey data were analyzed with an analysis of variance to compare students' remote and F2F learning satisfaction within the undergraduate and doctoral programs.

Results: Results indicated that nursing students who enrolled in F2F learning preferred F2F to remote learning ($P < .001$). Differences in satisfaction existed among programs ($P = .035$) and among undergraduate class levels ($P < .001$).

Conclusion: It is essential to learn why nursing students were dissatisfied with remote learning to improve these types of learning experiences in the future.

Keywords: COVID-19, face-to-face learning, online learning, student engagement, students' satisfaction

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In March 2020, schools of nursing rapidly transitioned to virtual learning platforms following government restrictions on face-to-face (F2F) gatherings to slow the spread of coronavirus disease-2019 (COVID-19). As a result, schools had to make many important decisions about educating nurses and nurse scientists while keeping the students, faculty, and staff safe. As a result, some schools of nursing whose undergraduate and graduate students were enrolled in F2F classes moved to videoconferencing platforms and learning management systems (LMSs). Platforms like Zoom, Microsoft Teams, and Google Meet allowed students and faculty to meet synchronously in virtual environments, and the LMS permitted faculty to present course material and assess student learning. Remote learning is defined here as faculty using synchronous videoconferencing with the LMS to teach. This study examined students' satisfaction with remote and F2F learning in the spring 2021 semester 1 year after COVID-19 restrictions were instituted. Specifically, nursing students in F2F learning environments who rapidly transitioned to remote learning were asked about their satisfaction with the course organization in the LMS and student engagement in remote and F2F learning.

Author Affiliations: Director (Dr Bowser), Center for the Scholarship of Teaching and Learning in Nursing Education, University of Pittsburgh School of Nursing, Pennsylvania; and PhD candidate (Ms Kazakoff), Assistant Professor (Dr Scott), and Dean and Distinguished Service Professor of Nursing (Dr Dunbar-Jacob), University of Pittsburgh School of Nursing, Pennsylvania.

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Correspondence: Dr. Bowser, Center for the Scholarship of Teaching and Learning in Nursing Education, University of Pittsburgh School of Nursing, 370 Victoria Bldg, 3500 Victoria St, Pittsburgh, PA 15213 (abw33@pitt.edu).

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Students' Satisfaction With Remote Versus F2F Learning

The research indicated conflicting data on nursing students' satisfaction with remote learning during the beginning of the COVID-19 pandemic. Students reported more satisfaction with using the LMS when faculty were more comfortable with remote learning tools, organizing courses, and engaging students.[1,2] In studies of clinical practice using videoconferencing sessions, undergraduate nursing students reported being satisfied. Some examples were a 1-day virtual experience in discharge planning among nursing and medical students[3] and an 8-week online synchronous clinical experience with high-fidelity

simulation.[4] Other studies with graduate-level nursing students reported similar findings. For instance, midwifery faculty received positive student feedback on specific videoconferencing clinical experiences.[5] Nurse practitioner students reported satisfaction with virtual objective structured clinical examination through videoconferencing[6] and simulated telehealth visits.[7]

However, other research studies indicated nursing students were dissatisfied with remote learning experiences. Gaffney and colleagues[8] reported the transition to remote learning for nursing students was difficult for some students regardless of the nursing faculty's competence with remote learning tools. For example, after the shift to remote learning, students' confidence in succeeding in the bachelor of science in nursing (BSN) program was linked to their preferred learning methods and proximity to graduation. In another survey study, students and faculty were asked about their Zoom experiences. In a sample size of 90 undergraduate students, only 25% enjoyed learning theory in remote classes, and only 12% were satisfied with a remote clinical practicum.[9] In other studies examining remote clinical experiences, nursing students reported an inability to cope[10] and expressed that remote learning was inappropriate for clinical practice and skills.[11] The literature showed that individual clinical practicum experiences could be engaging across program levels when faculty had access to simulation resources. However, undergraduate students showed concern for not being prepared to practice the skills learned in a remote clinical practicum. Additionally, the literature did not provide an overall picture of how satisfied undergraduate and doctoral students were across all remote learning experiences and whether they felt engaged in the learning of didactic and clinical content.

This investigation focused on undergraduate and doctoral students enrolled in F2F programs who were still taking courses in remote learning formats a year after the March 2020 transition. The research questions were: How satisfied were nursing students with remote versus F2F learning regarding course organization and student engagement, and how does this student's satisfaction differ among undergraduate and doctoral programs?

Methods

Study Design

After receiving approval from the institutional review board, this cross-sectional, descriptive study used an electronic survey to collect nursing students' responses in the spring semester 2021. At that time, many students who enrolled in F2F learning had experienced more than 12 months of remote learning. In addition, faculty had 2 semesters to develop their videoconferencing materials and teaching tools. Students who responded to the survey could attend several F2F classes during the spring 2021 semester.

Sample

The sample consisted of nursing students in a traditional 4-year BSN, an accelerated second degree BSN (ABSN), a doctor of nursing practice (DNP), and a PhD program in a school of nursing at a research intensive university in the eastern United States. Students enrolled in online education were excluded. Thus, the sample was only students enrolled in F2F education who transitioned into remote learning in March 2020. Out of 954 possible students registered for F2F courses, 522 students voluntarily answered the survey questions. Of these students, 247 were in the BSN program, 40 were in the ABSN program, 127 were DNP students, and 34 were PhD students. Of the BSN students, 65 were first-year, 84 were sophomores, 68 were juniors, and 30 were seniors.

Survey

The researchers developed the survey based on discussion with faculty members and well-known best practices in nursing education, including Quality Matters[12] standards and rubric for online teaching and Chickering and Gamson's[13] work in student engagement. Course organization was operationalized as the organization of course material, clarity of due dates, and meeting assignment deadlines. Student engagement was operationalized as the ability to interact with each other, faculty feedback, and a sense of connectedness.

The survey included 2 demographic questions to identify the nursing program and questions on satisfaction in the remote and F2F learning environments. The students rated their satisfaction within each learning environment on the following 9 variables: (1) organization of course materials, (2) knowing due dates, (3) meeting assignment deadlines, (4) engagement in learning, (5) faculty feedback, (6) small group work, (7) confidence to ask questions and participate, (8) feeling connected with others, and (9) ability to create study groups. Item responses on each variable of the learning environment were given on a 4-point Likert scale (1 = very dissatisfied to 4 = very satisfied). Additionally, there was an option for no opinion.

Statistical Analysis

The scores were summed across the 9 learning environment variables to generate an overall satisfaction score. The overall satisfaction and the satisfaction with the 9 variables between learning formats across programs and the 4-year BSN class levels were compared. First, the overall differences in satisfaction between remote and F2F learning regardless of program membership or the class level were evaluated using a repeated-measures analysis of variance (ANOVA). To analyze overall satisfaction differences between F2F and remote learning among the programs and BSN class levels, 4 × 2 mixed-design ANOVA was employed, with the learning format being a 2-level within-subject factor and each program and BSN class level a 4-level between-subject factor. Next, differences among the 9 variables of satisfaction between learning formats

Table. Mean and 95% Confidence Intervals of Students' Satisfaction With Learning Variables Across Programs

	BSN Mean (95% CI)	ABSN Mean (95% CI)	DNP Mean (95% CI)	PhD Mean (95% CI)
Organization of course material				
Remote	2.93 (2.85-3.02)	2.84 (2.52-3.16)	3.26 (3.09-3.42)	3.40 (3.08-3.72)
F2F	3.30 (3.21-3.39)	3.30 (3.00-3.59)	3.20 (3.05-3.36)	3.50 (3.11-3.89)
Knowing due dates				
Remote	2.93 (2.84-3.03)	2.95 (2.67-3.22)	3.40 (3.26-3.53)	3.72 (3.42-4.02)
F2F	3.44 (3.34-3.53)	3.33 (3.03-3.64)	3.39 (3.23-3.54)	3.58 (3.21-3.96)
Meeting assignment deadlines				
Remote	3.21 (3.13-3.30)	3.39 (3.14-3.65)	3.43 (3.29-3.57)	3.84 (3.56-4.12)
F2F	3.49 (3.40-3.53)	3.41 (3.14-3.67)	3.41 (3.26-3.56)	3.67 (3.30-4.03)
Faculty feedback				
Remote	2.88 (2.78-2.99)	3.16 (2.88-3.44)	3.10 (2.94-3.27)	3.44 (3.12-3.76)
F2F	3.40 (3.30-3.50)	3.44 (3.15-3.74)	3.29 (3.13-3.45)	3.67 (3.32-4.01)
Small group work				
Remote	2.48 (2.35-2.61)	2.92 (2.51-3.33)	2.84 (2.61-3.06)	3.24 (2.70-3.78)
F2F	3.33 (3.22-3.45)	3.35 (3.02-3.69)	3.18 (3.01-3.35)	3.67 (3.22-4.11)
Engaged in learning				
Remote	2.49 (2.38-2.61)	2.87 (2.58-3.16)	2.81 (2.62-3.00)	3.17 (2.74-3.59)
F2F	3.47 (3.37-3.57)	3.50 (3.21-3.79)	3.39 (3.22-3.55)	3.71 (3.32-4.09)
Confident to ask questions/participate				
Remote	2.73 (2.62-2.85)	3.08 (2.76-3.40)	3.06 (2.88-3.24)	3.44 (3.10-3.78)
F2F	3.13 (3.02-3.25)	3.35 (3.01-3.70)	3.18 (3.01-3.35)	3.54 (3.15-3.94)
Feel connected with others				
Remote	1.98 (1.87-2.10)	2.58 (2.25-2.91)	2.29 (2.09-2.49)	2.48 (2.10-2.86)
F2F	3.53 (3.43-3.63)	3.46 (3.16-3.76)	3.41 (3.26-3.56)	3.67 (3.30-4.03)
Ability to create study groups				
Remote	2.44 (2.30-2.57)	2.97 (2.66-3.28)	2.43 (2.21-2.65)	3.52 (2.96-4.08)
	3.55 (3.43-3.66)	3.57 (3.22-3.91)	3.39 (3.21-3.57)	3.67 (3.28-4.05)

Abbreviations: ABSN, accelerated BSN; BSN, bachelor of science in nursing; DNP, doctor of nursing practice; F2F, face-to-face; PhD, doctor of philosophy.

across programs and BSN class level were evaluated using 9 × 2 × 4 mixed-design ANOVA, with variables being a 9-level within-subject factor, the learning format a 2-level within-subject factor, and each program and BSN class level a 4-level between-subject factor. Significant *F*-tests from ANOVA were followed up using *t* tests for pairwise and custom comparisons. Sidak correction was applied to adjust for inflated type 1 error due to multiple testing. Huynh-Feldt corrections were applied when sphericity violations were detected. All analyses were completed using IBM SPSS v.27 (IBM Corp, Armonk, New York).

Results

Differences in Overall Satisfaction

Overall mean satisfaction differed between remote (2.71 ± 0.03) and F2F (3.22 ± 0.03) learning ($F_{[1,380]}$ = 124.32, P < .001, η^2 = .25). F2F learning corresponded to higher satisfaction than the remote learning. Results indicated that satisfaction between remote and F2F learning varied across programs ($F_{[3,377]}$ = 2.78, P = .041, partial η^2 = .02). Students were more satisfied with F2F regardless of the program. Additionally, BSN students were more dissatisfied with the remote learning than DNP and PhD students (mean difference = –0.34, 95% confidence interval [CI]: –0.50, –0.18). However, there were no mean differences in overall satisfaction among programs in the F2F environment.

Results also indicated significant differences among the BSN class levels ($F_{[3,243]}$ = 4.61, P = .004, partial η^2 = .05). The juniors were more satisfied with the remote learning than seniors (mean difference = 0.36, 95% CI: 0.02, 0.70). First-year students were more satisfied with the F2F learning than sophomores (mean difference = 0.27, 95% CI: 0.05, 0.49) and juniors (mean difference = 0.27, 95% CI: 0.03, 0.50), but not significantly different than seniors. When compared with sophomores and juniors, the first-year and senior students reported more dissatisfaction with remote learning than F2F learning (Mean difference = –0.40, 95% CI: –0.65, –0.17).

Differences Among the 9 Variables of Satisfaction

There was a significant 3-way interaction between programs, variables, and learning formats ($F_{[17.91,1659.48]}$ = 1.691, P = .035). The Table summarizes each variable's mean and 95% CI for remote and F2F learning by the program. Significance tests from post hoc pairwise comparison indicated that students in all programs reported greater satisfaction with F2F learning concerning small group work and feeling connected to others. Aside from the PhD, students enrolled in all other programs (BSN, ABSN, and DNP) indicated more F2F satisfaction with being engaged in learning. Both BSN and DNP students indicated greater F2F satisfaction with the ability to create study groups. In general, BSN reported greater satisfaction with F2F across all 9 variables.

There was a significant 3-way interaction between BSN class levels, variables, and learning formats ($F[_{19.74,1144.83]}$ = 3.14, P < .001). The Supplemental Digital Content Table (available at: http://links.lww.com/NE/B59) summarizes each variable's mean and 95% CI for remote and F2F learning by class level. Significance tests from post hoc pairwise comparison indicated that first-year students were more satisfied with F2F versus remote learning, regardless of which variable was considered. At the same time, seniors were more satisfied with F2F versus remote for all variables except knowing due dates. Both sophomores and juniors report greater F2F satisfaction for variables of knowing due dates, small group work, engagement in learning, feeling connected to others, and the ability to create study groups. Additionally, sophomores reported greater F2F satisfaction with faculty feedback.

Discussion

The historical context of the COVID-19 pandemic likely impacted students' satisfaction with remote learning. Nursing students reported increased anxiety and stress over the pandemic year in the school community (eg, fear of contracting COVID-19, social isolation, loss of clinical experiences, and difficulty transitioning to remote learning)[2,8,14] and at home (eg, managing childcare and abrupt changes in work and clinical course schedules).[15,16] Within this context, the results from this study indicated undergraduate and doctoral nursing students who enrolled in F2F learning reported no differences in satisfaction with course organization in remote and F2F learning. However, they reported significantly more satisfaction with F2F learning than remote learning, especially with feeling connected and working in small groups. Additionally, there were no differences in satisfaction with faculty feedback and confidence to ask questions and participate in remote and F2F learning for doctoral students.

Nursing education literature is rich with examples and methods for creating engaging online and distance education courses before the COVID-19 pandemic. Several studies during the COVID-19 pandemic also indicated students' satisfaction with specific remote clinical experiences using videoconferencing.[3-5] Therefore, the implications might be that remote learning environment required more engaging activities. However, remote learning through videoconferencing in the COVID-19 pandemic environment may not fit the model of traditional online nursing courses. Even though students have been learning in remote environments for more than 12 months, videoconferencing might still be viewed as a temporary fix to continue learning during COVID-19. Students may believe they will be returning to F2F learning as soon as possible and may be reluctant to engage more with videoconferencing. Additionally, students and faculty reported experiencing "Zoom fatigue," a new term referring to feelings of tiredness or burnout with overuse of videoconferencing.[17] Even if faculty are implementing engaging activities, nursing students at this time in the pandemic might generally be dissatisfied with videoconferencing.

The findings also indicate that BSN students were less satisfied with remote learning than doctoral students. In particular, first-year and senior students indicated less satisfaction with remote learning than the sophomore and junior students. In addition, sophomore and junior students stated less satisfaction with knowing due dates in remote learning. We believe sophomores and junior students' dissatisfaction with knowing the due dates might be influenced by the continual changes in clinical course schedules as hospitals and the university made decisions based on increasing cases and hospital admissions related to COVID-19. Also, first-year preclinical students likely dealt with unmet college expectations. These students were new to college and did not have the classroom or typical campus environment to make and sustain connections. On the other hand, the senior students ordinarily have a year of hands-on clinical experience. Thus, the transition to remote clinical practice instead of clinical time with patients may have contributed to lower students' satisfaction.

The stressors related to the COVID-19 pandemic might have influenced students' general satisfaction with engagement in remote learning. Perhaps students who enrolled in F2F learning will report more satisfaction with engagement with remote learning as the stressors ease, more faculty increase their confidence and skill in delivering content through remote learning systems, and students return to more F2F interactions inside and outside of the classroom. Further studies in students' satisfaction with remote learning are needed.

Limitations

This study relied on student self-reported data collected at a time of high stress and change. Whether the level of dissatisfaction was specific to the learning situation or a generalized effect of the societal move to increased isolation and use of technology was unknown. Additionally, the first-year students answered questions about F2F

learning experiences even though a remote learning environment primarily characterized the duration of their college experiences. This context draws into question the extent to which they were answering questions about their actual experiences versus what they hypothetically believed their experiences would be.

Conclusion

The change from F2F to remote learning affected nursing students' sense of student engagement at every program level. Therefore, it is essential to address nursing students' dissatisfaction with student engagement in remote learning and find methods to improve remote learning experiences if introduced as an option for F2F learning.

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TEACHING TIP

Using Travel Nurses as Preceptors

Navigating several different hospital units as an undergraduate clinical nursing instructor comes with many challenges. Within each unit, there is competition for preceptors related to new hires, understaffing, an unwillingness of staff to take nursing students because of their own assignments and sometimes burnout, and students from other schools of nursing. An additional challenge is the considerable increase in the number of travel and other temporary or contract nurses working in hospitals, which can bring new opportunities and potential conflicts; however, nursing students and instructors can benefit from the utilization of travel nurses as potential preceptors in the clinical setting. When making assignments for the nursing students, it is important for clinical instructors to clearly convey to the charge nurse that students can be paired up with travel nurses to increase available preceptors. It is beneficial to explain to students how a travel nurse differs from a staff nurse before assignments are made, so they will be prepared and not surprised should the travel nurses be unfamiliar with certain policies and procedures. Most travel nurses have experience working in a particular clinical area but not in a specific hospital. Instructors should not shy away from pairing their students with willing travel nurses because they may have years of working experience, critical thinking skills, and a unique perspective on nursing. Travel nurses can fulfill a unique role and can offer a positive learning experience to nursing students when both parties are informed and properly prepared.

By **Emily Carder**, DNP, RN, WHNP-BC, School of Nursing, University of Texas Health Science Center San Antonio, carder@uthscsa.edu.

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