

Student Evaluation of a Nursing Practice Class during the covid-19 Pandemic

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ABSTRACT

Objective: The Covid-19 pandemic has had a tremendous impact on college education. We examined how students felt about their nursing practice classes in the face of restrictions.

Design: Quantitative research.

Materials and Methods: A survey was conducted on the class evaluations of students who took exercise classes in 2019 and 2021.

Results: There was no difference in student evaluations of the class between FY 2019 and FY 2021, with little impact from COVID-19.

Discussions: Students' evaluations showed that they were satisfied with and learned from face-to-face classes, in which they could experience and learn together with other students or faculty and with the classes that were limited due to the COVID-19 disaster, suggesting that classes during the pandemic had the same value as conventional classes.

Conclusions: Face-to-face classes, where students can experience and learn together with other students and faculty, were considered unaffected by the COVID-19 pandemic.

KEY WORDS

COVID-19, exercise class evaluation, questionnaire survey, student satisfaction

INTRODUCTION

COVID-19, first reported in 2019, spread worldwide and entirely affected the lecture format of university education to prevent the spread of the virus. In terms of school education, face-to-face classes could be held depending on the severity of the infection situation; however, their implementation style has become quite different from that in the pre-COVID-19 classes, due to the limitations in the number of students in the classroom and difficulties in group work to maintain social distance. In Japan and other countries, remote learning has become the primary method of school education, and several studies have reported on online classes, individual tutoring, and remote learning using simulations¹⁻⁶. However, no study has been conducted on the actual practice and evaluation of face-to-face classes with COVID-19 limitations. The subject of Adult Nursing Methodology II (Chronic Care Assistance Theory) provided in the Department of Nursing of our university has a series of on-site exercises, where students directly or indirectly experience simulated situations. The class method of exercises is a way for students to reflect on their thoughts, words, and actions to confirm their perceptions to improve their actions⁷; thus, exercises are an essential learning opportunity for students.

One way to confirm students' perceptions is through class (exercise) evaluations, that should provide critical information for improving the exercise program quality.

The COVID-19 disaster is still not at its end, and ways to provide classes should be discussed and modified according to the changes in the situation. This study aimed to comparatively investigate students' class evaluations obtained from the pre-and mid-COVID-19 disaster periods on Adult Nursing Methodology II, to examine how students can

learn and be satisfied with the class as much as possible, despite the limitations.

MATERIALS AND METHODS

Methods included an open-ended questionnaire survey to evaluate the exercise class. The instrument was developed based on the Student Evaluation Scale for the Teaching-Learning Process in Nursing Schools (for Nursing Practice)^{8,9} by extracting content closely related to the content of this particular exercise class, consisting of five subcategories, 12 questions, and items related to opinions (Table 1).

Participants were given a pre-assignment and instructed to submit a report prior to the exercise. The procedures for the exercise items were distributed and explained to the participants in advance. Due to the limited capacity of the classroom, the time allotted for the exercises was reduced from 90 minutes to 40 minutes, half of the pre-COVID-19 class. In addition, student-to-student contact was minimized to prevent infection. Therefore, it was necessary to adjust the time allotment for the components of the 2021 exercise class, such as the technical exercises and the exchange of ideas among students, especially the in-class demonstrations. The exercises included the following.

1. "Self-Measurement of Blood Glucose (SMBG) Practice and Nursing Assistance Exercise." Following the procedure, prepare equipment to measure blood glucose levels on your own.

2. "Disinfection and fixation of total parenteral nutrition (TPN) insertion site and nursing assistance exercises". Students prepare instruments, disinfect the insertion site according to the procedure, and apply

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Table 1: The survey contents

[Exercise contents and time allocation]	
1. The lesson time was appropriate for the contents of the exercise	
2. The exercise was not too complex; it was easy to understand	
[Understanding of significance/purpose and mastery of practice]	
3. It was easy to understand the purpose and point of the exercise	
4. It was a development that the significance of actually trying is communicated well	
5. Demonstration time and speed were appropriate	
6. Progress of the exercise was appropriate; I was able to practice well	
[Teaching materials / advance learning]	
7. The preliminary task was of appropriate content and quantity to help understand the contents of the exercise	
8. I properly used teaching materials such as prints and video to aid the understanding of the contents	
[Student's subjective participation]	
9. I was able to progress while discussing enough with the other students	
10. By experiencing the role of the patient, I was able to think about points to consider and devise when implementing	
[Faculty attitudes]	
11. I was able to question the leader at any time when needed	
12. The leader was supportive to the student's thinking and acting on his own	

5-grade evaluation
(5: very applicable, 4: quite applicable, 3: roughly applicable, 2: not very applicable, 1: not at all)

a protective sheet.

3. "Nursing Assistance Exercise for Improvement of Activities of Daily Living (ADL)". Prepare the equipment and measure the range of motion of joints according to the procedure.

A total of 206 students enrolled in Adult Nursing Methodology II (Chronic Care Assistance) in 2019 and 2021 participated in this study. For statistical analysis, the mean and standard deviation of the questionnaire items were calculated on a 5-point scale from "strongly agree" to "strongly disagree," and a t-test was performed.

Ethical considerations were explained to participants in writing and verbally in advance, explaining to them that their cooperation in the survey was voluntary and would not affect their academic performance in any way. The use of information and data obtained in this study was limited to this study only. This study was approved by the Research Ethics and Conflict of Interest Committee of the Japan University of Health Sciences (Approval No. 2827-1).

RESULTS

The number of students who took the course in 2019 were (1) 109 for SMBG, (2) 106 for TPN, and (3) 107 for ADL. The number of students who participated in the survey (response rate) were (1) 106 (97%) for SMBG, (2) 100 (94%) for TPN, and (3) 100 (93%) for ADL. The number of students who took the course in 2021 were (1) 96 for SMBG, (2) 93 for TPN, and (3) 97 for ADL. The number of students who participated in the survey (collection rate) were (1) 89 (93%) for SMBG, (2) 80 (86%) for TPN, and (3) 75 (77%) for ADL.

The mean and standard deviation of each questionnaire item for SMBG, TPN, and ADL for fiscal years (FY) 2019 and 2021 were calculated (Table 2). The mean values of all the items were 4.86 in FY 2019 and 4.84 in FY 2021. The difference between the means of FY 2019 and FY 2021 was within ± 1 for all the items. Analysis by t-test showed no significant differences among all items.

DISCUSSION

Student evaluations showed that the means for each item in 2019 and 2021 were almost the same, with no significant differences, and that students were highly satisfied with the COVID-19 disaster limited face-

Table 2: Mean and SD for exercise items

		Q1		Q2		Q3			
		2021	2019	2021	2019	2021	2019		
SMBG	mean	4.88	4.81	4.93	4.93	4.87	4.93		
	SD	0.394	0.5	0.294	0.285	0.375	0.285		
TPN	mean	4.78	4.85	4.86	4.88	4.86	4.85		
	SD	0.477	0.458	0.347	0.409	0.347	0.479		
ADL	mean	4.75	4.84	4.77	4.86	4.80	4.89		
	SD	0.572	0.465	0.535	0.45	0.493	0.373		
		Q4		Q5		Q6		Q7	
		2021	2019	2021	2019	2021	2019	2021	2019
		4.91	4.90	4.92	4.93	4.90	4.92	4.87	4.80
		0.325	0.389	0.345	0.285	0.371	0.341	0.404	0.506
		4.84	4.87	4.86	4.85	4.70	4.89	4.86	4.83
		0.371	0.418	0.347	0.479	0.624	0.375	0.347	0.551
		4.77	4.86	4.80	4.88	4.79	4.84	4.81	4.86
		0.535	0.427	0.52	0.409	0.527	0.443	0.512	0.404
		Q8		Q9		Q10		Q11	
		2021	2019	2021	2019	2021	2019	2021	2019
		4.88	4.84	4.88	4.85	4.93	4.89	4.91	4.89
		0.394	0.439	0.364	0.409	0.294	0.373	0.325	0.398
		4.91	4.83	4.83	4.88	4.62	4.87	4.86	4.87
		0.284	0.551	0.444	0.383	0.805	0.418	0.443	0.393
		4.81	4.85	4.81	4.78	4.81	4.87	4.77	4.81
		0.488	0.439	0.485	0.543	0.512	0.393	0.559	0.467
		Q12							
		2021	2019						
		4.92	4.91						
		0.31	0.353						
		4.88	4.88						
		0.402	0.385						
		4.77	4.83						
		0.583	0.453						

to-face classes. One possible reason for this is that students strongly desired to communicate with the instructor and other students in the class, and the class format was able to fulfill this to some extent. Ease of communication is one of the greatest advantages of face-to-face classes¹⁰, and it was considered important to maintain a format in which students and faculty experience and learn together, even when classes were limited due to the COVID-19 pandemic.

According to a cross-sectional study among medical students in North of Jordan, most medical students at Jordan University of Science and Technology preferred the traditional face-to-face teaching method over the solo online teaching methods with recommendations to convert to a more integrated educational system¹¹. It is important to practice a face-to-face teaching method with thorough infection control.

Student evaluations are an important indicator of classroom assessment, but they are not the entirety of classroom assessment. There are limitations from these results in determining the desirable components of the practical training method. In the future, it will be necessary to analyze the components of the class format to enhance the education and collaboration of the faculty and to build an exercise program that will allow students to learn more. This study showed the importance of face-to-face classes.

CONCLUSION

Student evaluations indicated a high level of satisfaction and learn-

ing effectiveness for the shortened classes. The value of restricted classes for students is the same as for traditional classes in that they can experience and learn with other students and faculty; the extent to which face-to-face classes can be secured under the COVID-19 pandemic needs to be examined.

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REFERENCES

1. Shinichi I. Learning and Instruction in With-Corona Age: From Learning in the Classroom Lesson to Utilizing It as One of Resources. *Bulletin of Japan Society of Private Colleges and Universities of Nursing* 2021; 23(1); 1-8.
2. Aki S, Toshie S, Yuki N. Remote adult nursing practice using simulations in Corona. *Bulletin of Japan Society of Private Colleges and Universities of Nursing* 2021; 45; 16-18.
3. Atsuko S, Tazuko I, Kaoru S, Mitsuko S. Distance education using simulations in Corona: Home nursing practice by remote Learning. *Bulletin of Japan Society of Private Colleges and Universities of Nursing* 2021; 45; 19-20.
4. Hery WT, Hans HT. The Effect Of Online Learning Service Quality On Student Satisfaction During COVID19 Pandemic In 2020 *Journal Management Indonesia* 2020; 20(3); 240-251.
5. Alanna Gand, Laura MK. COVID-19 Remote Learning Transition in Spring 2020: Class Structures, Student Perceptions, and Inequality in College Courses. *American Sociological Association Teaching Sociology* 2020; 48(4); 283-299.
6. Serhan D. Transitioning from face-to-face to remote learning: Students' attitudes and perceptions of using Zoom during COVID-19 pandemic. *International Journal of Technology in Education and Science* 2020; 4(4); 335-342.
7. Yoko N, Noriko O, Michiko K. Evaluation of Training Class for Basic Nursing Technique : Evaluation of Basic Nursing Technique Training Class using The Nursing System University Class Process Evaluation Scale. *The Bulletin of Niigata College of Nursing* 2001; 7; 65-75.
8. Naomi F, Midori S. Nursing Education Evaluation Theory-Realization of High Quality Self-Inspection / Evaluation-. *Bunkodo Tokyo* 2007; 37-45.
9. Naomi F. Measuring tool file for nursing practice / education-from development process to actual utilization-. *Igaku-Shoin Tokyo* 2011; 109-117.
10. Yuiko T, Mai K, Takahiro M, Naoki A. Consideration on university education from students' thoughts on classes: In the spread of COVID-19. *Bulletin of Teikyo University of Science* 2021; 17; 45-151.
11. Amer MS, Nail O, Eman A, Lina E, Mustafa MA, *et al*. Distance education during the COVID-19 outbreak: A cross-sectional study among medical students in North of Jordan. *Annals of Medicine and Surgery* 2020; 59; 186-194.