

# Performance and Satisfaction of Online and Non-face-to-face Mixed Classes

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## 온라인 수업과 비대면 혼합수업의 성과와 만족도

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**Abstract** The purpose of this study is to compare the performance and satisfaction of online classes and non-face-to-face mixed classes at universities during the COVID-19 pandemic. This study was conducted targeted fourth-grade students taking adult nursing lectures at the Department of Nursing at one university. Class performance and class satisfaction were compared between students who participated in the non-face-to-face class and participated in the non-face-to-face mixed class. class performance, students' average scores out of 100 on the final exams were compared. Class satisfaction compared the average score of questionnaire on class satisfaction. Class performance was high in online classes, Class satisfaction was higher in mixed classes than in non-face-to-face classes. In the future, it will be necessary to develop and operate various educational methods for university education in the post-COVID-19 era.

**Key Words** : Online class, Non-face-to-face mixed class, Blended learning, Class performance, Class satisfaction

**요약** 본 연구의 목적은 코로나 팬데믹 시기 대학의 온라인 수업과 비대면 혼합수업의 성과와 만족도를 비교하기 위함이다. 연구는 일 대학 간호학과에서 성인간호학 강의를 수강하는 4학년 학생을 대상으로 하였으며 전면 비대면 수업에 참여한 113명과 비대면 혼합수업에 참여한 134명의 학습 성과와 수업 만족도를 비교하였다. 연구결과 비대면 혼합수업의 성과와 만족도가 전면 비대면 수업보다 통계적으로 유의하게 높았다. 코로나 팬데믹 시기를 지나오면서 대학 구성원은 수업의 질을 결정하는 요인은 대면이나 비대면이나 형식의 문제라기보다는 가르치는 사람의 성의와 배우는 사람의 열의가 더욱 중요함을 모두 경험했다. 따라서 교육과 학습에 대한 성의와 열의를 기본으로 하여 앞으로의 교육환경 변화에 대비한 새로운 교육방법 개발 운영, 이에 따른 효과연구는 계속되어야 할 것으로 생각된다.

**주제어** : 온라인 수업, 비대면 수업, 혼합 수업, 학습 성과, 수업 만족도

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## 1. Introduction

### 1.1 necessity of the study

The prevalence of COVID-19 (coronavirus disease 2019) has brought about rapid changes throughout education. The Ministry of Education conducted a phased online opening for the first semester of the 2020 school year, strengthened support for remote classes, and improved the system. Each university was advised to use non-face-to-face classes as the social distancing level was upgraded according to the increase in confirmed cases[1,2]. Accordingly, the university prepared its own non-face-to-face class operation policy, and the inevitable transition of non-face-to-face online lectures in the university's regular curriculum was a new challenge for both instructors and students.

Non-face-to-face classes are defined as classes in which teaching-learning activities take place at different times or spaces as part of remote classes[3]. The types of remote classes can be largely divided into real-time classes and non-real-time classes depending on whether instructors and learners interact at the same time[4].

Before the COVID-19 pandemic, if remote classes were used in some classes, in the early stages of the pandemic, most university classes, including practical classes, were conducted as remote classes.

The advantage of online education is that many students can interact with each other such as exchanging information using computers. It has high accessibility beyond spatial constraints, and students can also learn cooperatively. In particular, in the course of online classes, students can learn according to their desired time and study repeatedly.

Compared to face-to-face education, non-f

ace-to-face education costs a lot of initial cost to purchase expensive equipment and install systems for classes. And in face-to-face classes, it is possible to control the speed and communicate through the learner's response in the course of the instructor's lecture, but in non-face-to-face classes, it is difficult for the instructor to accurately grasp the learner's condition[5-7].

For this reason, the full-scale non-face-to-face class, which was urgently conducted without thorough preparation time during the COVID-19 pandemic, was confused due to a lack of facilities and equipment for online class production, and a lack of experience in online class management by faculty and students.

As an alternative, blended learning is being discussed. Blended learning is a combination of two or more presentation or delivery methods to improve learners' learning outcomes, and is broadly defined[8].

Blended learning is a teaching method that combines e-learning and face-to-face classes to compensate for insufficient educational activities in e-learning and to maximize learning effects by simultaneously utilizing the educational usefulness of face-to-face classes[9].

Using blended learning for education can be of educational use, which facilitates change and acceptance of the existing education system, and can supplement or supplement existing things without the need for new infrastructure and institutions for change, allowing it to operate at a much lower cost and increase education efficiency[10,11].

In an online learning environment, many studies have been conducted on the effectiveness of learners' classes, and the factors affecting the effectiveness of online classes are class satisfaction and academic achievement[12].

Class satisfaction can be defined as a state of mind that is obtained when the purpose of

learning is achieved, the purpose of the learner's individual learner is achieved, or the expectations of the learner's individual are satisfied[13-16].

Academic achievement is about how successfully you are achieving your academic needs in college life, and refers to factors that improve college student self-esteem and affect individual satisfaction with your major after graduation [17,18].

This study was attempted to examine the future direction of university education in the post-COVID-19 era by comparing class satisfaction and academic achievement of non-face-to-face and mixed classes.

## 1.2 purpose of the study

The purpose of this study is as follows.

1. The academic performance of non-face-to-face and non-face-to-face, face-to-face mixed classes is compared for fourth-grade students taking adult nursing at nursing colleges.

2. The satisfaction level of non-face-to-face and non-face-to-face, face-to-face mixed classes is compared for fourth-grade students taking adult nursing at nursing colleges.

## 2. Method

### 2.1 Subject of the study Research Tools and Analysis Methods

This study was conducted from March 2020 to June 2021, targeting fourth-grade students taking adult nursing classes at B University's nursing department, and 113 people who participated in all non-face-to-face classes and 134 people who participated in non-face-to-face mixed classes.

### 2.2 Research Tools and Analysis Methods

As for the class performance, the average score

of 100 points for the midterm and final exams was compared, and the average score of 10 questions in the class satisfaction questionnaire was compared, and the higher the score, the higher the satisfaction. The collected data were analyzed using real numbers and percentages.

### 2.3 limitations of the study

This study is a study of 4th graders in the nursing department of one university, and there is a limit to expansion interpretation.

## 3. Results

### 3.1 Class performance

Table 1 shows the class performance of online classes and non-face-to-face mixed classes.

The average academic achievement of students who took the full non-face-to-face class was 64.75 points, and the academic achievement of students who took the face-to-face and non-face-to-face mixed classes was 64.74 points. The academic achievement of students who took the full-face non-face-to-face class was higher than that of students who took face-to-face and non-face-to-face mixed classes.

**Table 1. Class performance of online classes and non-face-to-face mixed classes**

content	Online class	Mixed class
performance score	64.75	64.74

### 3.2 Class satisfaction

Table 2 shows the satisfaction of online classes and non-face-to-face mixed classes.

The average satisfaction of online classes was 3.64 points, and the average satisfaction of mixed classes was 4.56 points, so face-to-face mixed classes were more satisfied than non-face-to-face online classes.

The item that showed the biggest difference in class satisfaction was "The professor ran the class in consideration of the characteristics and circumstances of the students' cyber lectures.", and it was confirmed in the order of "The professor operated the class so that it could be effective learning in consideration of the characteristics and situations of cyber lectures.", "In addition to the time of providing class content, communication between professors and students was smooth."

The item with the smallest difference in class satisfaction was "The professor observed the class time and the class period and gave a supplementary lecture when the class was canceled." followed by "The professor clearly explained the goal, importance, and necessity of this class." and "The content, method, and evaluation criteria of the grade evaluation were reasonable and fair."

**Table 2. Satisfaction of online classes and non-face-to-face mixed classes**

No	Contents	Online	Mixed
1	The class (evaluation) plan provided practical help in selecting courses and preparing classes.	3.77	4.56
2	The professor clearly explained the goal, importance, and necessity of this class.	3.90	4.56
3	The professor operated the class so that it could be effective learning in consideration of the characteristics and situations of cyber lectures.	3.67	4.60
4	In addition to the time of providing class content, communication between professors and students was smooth.	3.71	4.57
5	In the class, opportunities were provided to share mutual opinions and cooperate among students.	3.63	4.47
6	The content, method, and evaluation criteria of the grade evaluation were reasonable and fair.	3.80	4.49
7	The evaluation made in class helped me improve my learning and ability.	3.72	4.56
8	The professor's feedback on questions, tests, and assignments helped me with my learning activities.	3.74	4.53
9	The professor observed the class time and the class period and gave a supplementary lecture when the class was canceled.	4.09	4.61

10	The professor ran the class in consideration of the characteristics and circumstances of the students' cyber lectures.	2.37	4.60
	Average	3.64	4.56

### 3. Conclusion

This study attempted to compare the performance and satisfaction of face-to-face and non-face-to-face mixed classes with front-face non-face-to-face classes. The study was conducted on 4th graders taking adult nursing classes in a nursing department at a university, and compared the class performance and satisfaction of 113 students who participated in the full non-face-to-face class and 134 people who participated in the mixed class.

As a result of the study, the performance and satisfaction of mixed classes were higher than that of all non-face-to-face classes.

The average academic achievement of students who took the full-face non-face-to-face class was 64.75, and the academic achievement of students who took the mixed class was 64.74 points, which was higher than that of students who took the mixed class. The average satisfaction of online classes was 3.64 points, and the average satisfaction of mixed classes was 4.56 points, and mixed classes were more satisfied than non-face-to-face online classes.

Throughout the COVID-19 pandemic, university members have experienced that the sincerity of the instructor and the enthusiasm of the learner are more important than face-to-face or non-face-to-face issues that determine the quality of classes.

The implications of this study are that in order to increase online lecture replacement learners' learning satisfaction in the COVID-19 situation, instructors should develop instructional strategies, academic management, and class management strategies simultaneously for

learning methods that can increase learners' self-directed learning in various ways. Second, it is necessary to provide various programs that can improve the quality of content and increase the satisfaction of the major. Third, administrative support should follow along with the professor's instructional strategy that can improve academic achievement.

In conclusion, based on sincerity and enthusiasm for education and learning, the development and operation of new educational methods in preparation for future changes in the educational environment should continue.

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