International Journal of Religion
2024
Volume: 5| Number 4 | pp. 479 – 483
ISSN: 2633-352X (Print) | ISSN: 2633-3538 (Online)
ijor.co.uk
DOI: https://doi.org/10.61707/77yxpr87

Class Satisfaction with Non-Face-To-Face Calculus Classes Centered on Video Lectures and Real-Time Video Lectures

Kakyung Ahn[1]

Abstract

This study attempted to derive implications related to class operation to improve the quality of non-face-to-face online classes in the post-COVID-19 era by analyzing college students' class satisfaction with non-face-to-face online Calculus classes. On this purpose, a study was conducted based on the results of lecture evaluation of Calculus opened in the first semester of 2020 and the first semester of 2021. In the first semester of 2020, video lectures were conducted, and in the first semester of 2021, real-time lectures were conducted using Zoom. The method of the study was compared and analyzed using the results of lecture evaluation conducted in each semester. In 2020, because it was a video lecture, I could hardly communicate and give feedback, so the lecture evaluation was worse than other items, but in 2021, it was conducted real time non-face-to-face, but the evaluation of the same item improved a lot. Since it is mathematics, not any other subject, it was found that communication and feedback with students can give students quality of class and good learning results.

Keywords: *Corona 19 Pandemic, Online Education, Non-Face-To-Face, Real-Time Education, Teaching Method*

INTRODUCTION

Due to the global outbreak of COVID-19 in 2020, schools implemented online remote classes nationwide for the first time in history. To ensure that online non-face-to-face classes can proceed safely and smoothly in 2020, the Ministry of Education's full support and each school provided explosive support in various ways for the use of video, editing, and various digital technologies. Amid unexpected changes in the educational environment, university professors suddenly had to learn video production and editing skills for online classes and had to face the embarrassing experience of having to teach online in classrooms or labs without students. At first, for non-face-to-face online classes that suffered various trials and errors, such as the production of unfamiliar class videos and the use of LMS, it is now time for universities to improve the quality of remote classes by thoroughly preparing for various non-face-to-face remote courses. In a chaotic situation, instructors quickly responded to the given environment and faced many problems and limitations. On the problems arising in the process of converting existing face-to-face classes to online classes, universities, instructors, and learners all lack understanding and preparation to immediately carry out online classes, and despite the need to redesign existing face-to-face classes to fit online classes, they are struggling with limited resources in designing appropriate teaching and learning strategies and activities [1]. In the previous class, teacher-student, student-student interactions, discussions, group activities, and presentations, which were easily conducted, were inevitably different depending on the instructor's experience and competence. In addition, the instability of remote learning systems that support hundreds of courses at the same time also contributed to the confusion [2]. Online classes have differences in delivery methods, interaction and communication methods, and learning paradigms compared to existing face-to-face classes [3]. Therefore, when converting face-to-face classes to online classes, teaching and evaluation strategies must be redesigned taking the learning environment into consideration [4].

Evaluations of online education conducted using the latest technology were more negative than positive. Therefore, universities should now evaluate the quality of online non-face-to-face classes, which were unexpected and unprepared due to COVID-19, and devise measures to improve the quality of online non-face-to-face classes for college students. However, over the course of a year, more and more positive evaluations are being presented in the educational field for classes that improve through teacher's research and student

[1] Faculty, College of General Studies, Seokyoeng University. E-mail: kkahn@skuniv.ac.kr

feedback.

Online-based education has been active in elementary, middle, and higher education since the 1990s, and the education community has argued the importance of converging technology and digital media to respond to the future society presented by the information society and the Fourth Industrial Revolution before COVID-19. Online learning in Korean university education was mainly used for cyber colleges and large-scale lectures and was mainly used as an auxiliary learning device in a face-to-face classroom environment. Before the outbreak of COVID-19, the proportion of online classes in universities nationwide was only 1% of all classes [5].

As COVID-19 subsided, most of the subjects in experimental practice have been converted to face-to-face classes, and various methods of class management are currently being used in universities, such as face-to-face classes, non-face-to-face classes, and blended classes that mix face-to-face.

Therefore, this study aims to derive a class management plan to improve the quality of the class by analyzing the satisfaction of online video classes and non-face-to-face real-time classes in university mathematics [6].

BACKGROUND

Fourth Industrial Revolution, the future society is characterized by knowledge informatization (Info) by the rapid development of IT (InfoTech) and cognitive revolution (Cogno) represented by artificial intelligence. In this knowledge-information society, communication and learning of modern people depend heavily on technological media that mediate IT. We are now in an environment where it is almost impossible to carry out office work, trade, social services, and studies without relying on mobile phones, the Internet, e-mail, SNS, YouTube, and cloud services. The most important factor in the use of such IT services is the increase and speed of data, the emergence of high-speed Internet, and the development of artificial intelligence technology that can innovatively handle such data in terms of quality and quantity illustrates the nature of today's knowledge and information society and the direction in which learning is pointing [7]. Such a technologically advanced society can be seen as an essential requirement for educational change in a way suitable for maintaining and developing such a technological environment. E-learning and cyber-learning are the most important themes and action strategies of educational engineering and are actively used as concepts that refer to all forms of learning regardless of time and place with the help of information media without being bound by traditional textbooks or teacher guidance. Now, non-face-to-face learning can become a 'new standard' of learning in all areas, including 'out-of-school' learning such as home learning and lifelong learning, as well as school education, in a situation where most of the technological problems have been resolved thanks to the development of information and communication technologies such as high-speed Internet, online learning platforms, artificial intelligence, and big data. Non-face-to-face online education at universities is a concept that contrasts with traditional offline face-to-face education, which includes both remote education with relatively few time and space constraints and simultaneous and asynchronous access to various media and teaching and learning materials. Remote video lectures are a method of applying the video conferencing system to education and are characterized by interactive communication between professors and learners in different spaces. In particular, the fact that distant students can participate in the class by video at any place they want has the advantage of reflecting both the educational needs and the social situation of college students. In addition, as two-way communication between instructors and learners is possible, it can be applied to various teaching methods because it can interact similarly to face-to-face classes. Non-face-to-face classes conducted with recorded lectures help students learn what they want when they want to learn, and they can take classes beyond space and time through media. Online classes have the advantage of being able to repeat learning and giving learners more self-directed learning opportunities. However, there are also limitations of real-time video lectures, mainly technical problems and the effectiveness of teaching methods. Since video lectures are a form of education based on IT technology, if a technical problem arises in the middle of a lecture, the class will inevitably be stopped. In other words, there is a disadvantage that there is no other media or method to replace it [8]. In particular, speed problems and screen quality problems due to differences in Internet conditions are pointed out as factors that hinder learners' learning. Therefore, efforts and research on ways to improve the quality of non-face-to-face online classes at universities are very necessary.

METHOD OF RESEARCH

This study compared and analyzed students' lecture evaluations of Calculus lectures opened in the first semester of 2020 with video lecture and opened in the first semester of 2021 with real-time non-face-to-face video lectures. In the first semester of 2020, four lectures were held, and the total number of students was 123, of which 106 answered the lecture evaluation. In the first semester of 2021, three lectures were held, and the total number of students was98, of which 75 answered the lecture evaluation.

RESULT OF RESEARCH

Analysis of Lecture Evaluation

Tables 1 shows the results of lecture evaluation of first semester of 2020 and 2021.

Table 1. Analysis of Lecture Evaluation

Questions	Average of 2020	Average of 2021
1. I did my best in this class	4.46	4.42
2. I faithfully performed the assignments assigned in this class	4.51	4.59
3. I did my best on the tests assigned in this class	4.52	4.47
4. I was able to obtain sufficient information about the class (lecture content, teaching method, evaluation, etc.) through the syllabus	4.31	4.44
5. The professor in charge conducted the lecture according to the syllabus	4.35	4.44
6. The professor in charge has expertise that corresponds to the content of the lecture	4.56	4.63
7. The professor in charge presented lecture materials (presentations, class aids, etc.) suitable for the online teaching method	4.3	4.53
8. The professor in charge presented lecture materials (textbooks, handouts, videos, etc.) suitable for liberal arts subjects	4.3	4.58
9. The professor in charge conducted the lecture considering the educational needs of the students	4.27	4.39
10. The professor in charge lectured with passion and sincerity	4.46	4.54
11. The professor's teaching method was effective for online classes	4.01	4.37
12. Smooth communication was achieved with the professor in charge, appropriate for the online lecture situation	3.98	4.29
13. I was able to achieve what I wanted to learn (intellect, knowledge, skills, competencies, etc.) through liberal arts subjects	4.16	4.33
14. An evaluation method appropriate to the characteristics of online classes was used, and the evaluation was conducted fairly.	4.32	4.39
15. An evaluation method appropriate to the characteristics of the liberal arts subjects was used, and the evaluation was conducted fairly	4.36	4.50
16. Feedback on homework was provided	3.87	4.46
17. The professor strictly adhered to the	4.4	4.51

class schedule		
18. The professor strictly managed the status and actual status of students taking online classes	4.19	4.53
19. The school portal system for taking online lectures was operated appropriately	4.33	4.52
20. I am satisfied with this class and would recommend it to my friends	4.19	4.26
Average of lecture evaluation	4.26	4.45

An Analysis of Students' Lecture Impression

The following is a summary of the free description questions for lecture evaluation on recorded video lectures in the first semester of 2020.

Let's first look at the thoughts of the cross-applicants.

"*Perhaps because it was a theory class, there were some parts that I couldn't understand through online lectures. But it was good that the professor taught me kindly.*"

"*Please be considerate students who did not learn mathematics for science and engineering.*"

"*It was so uncomfortable that I couldn't ask questions because it was an online lecture.*"

"*The professor gave me a passionate lecture, uploaded a lot of helpful materials, and answered questions sincerely, which helped me understand the lecture.*"

"*I had difficulties in the contents of the class because I was a student who applied cross, but I think I was able to finish the class well one semester thanks to your slow teaching.*"

"*It was a pity that I only took cyber lectures during the first semester.*"

"*It was a pity that the online lecture class itself was not suitable for the subject of mathematics, where feedback is important. So, I was a little disappointed that I couldn't ask for a difficult question.*"

This time let's look at the opinions of freshmen who studied mathematics for science and engineering.

"*I think it's okay because the part that I'm satisfied with and a little disappointed with is a problem that will be solved if I have a face-to-face lecture.*"

"*There were many difficulties in learning math through online classes caused by Corona.*"

Let's take a look at the opinions of students who took real-time non-face-to-face lectures in the first semester of 2021.

"*I was uncomfortable because I couldn't communicate well because it was a non-face-to-face class but thank you for teaching me with passion.*"

"*Even though I was a cross-applicant, the professor slowly explained it one by one, so I could understand college mathematics that was difficult little by little. As a result, math became a little interesting. It was a really good class.*"

"*It was easy to study because you uploaded a video of what you lacked in class.*"

"*Thank you for always doing your best in every class! Even though it was an online lecture, I was able to concentrate on the class.*"

Of course, there were students who expressed dissatisfaction. But although not face-to-face, real-time non-face-to-face classes conducted by communicating with cameras and microphones in real time were more satisfactory than video classes.

CONCLUSION

Due to the risk of COVID-19 infection, the world had no choice but to conduct non-face-to-face classes in 2020, so students had no choice but to take classes through pre-recorded videos.

As a result of the study, college students' satisfaction with video viewing classes was generally high, but as expected, it was found that communication and feedback due to non-face-to-face communication needed to be improved. As video classes were held for a year in 2020 and non-face-to-face in 2021 but real-time video lectures were conducted, the shortcomings of video classes improved significantly. In conclusion, university students were generally satisfied with non-face-to-face online real-time classes. Non-face-to-face online classes are convenient because they can learn at any time they want, and they can repeat learning with the uploaded lecture video, and they can adjust the learning speed according to their learning level, so they were generally positively evaluated.

Acknowledgement

This research was supported by Seokyeong University in 2022.

REFERENCES

[1] Do, J. W., An Investigation of Design Constraints in the Process of Converting Face-to-face course into Online Course. *Journal of Education & Culture*., 26(2020), 153–173.

[2] Lee, Y. H., Park, Y. J., and Yun, J. H., Exploring the "Types" through Case Analysis on Operation of Distance Education in Universities Responding to COVID-19. *The Journal of Yeolin Education*., 28(2020), 211–234.

[3] Ascough, R. S., Designing for online distance education: Putting pedagogy before technology. *Teaching theology & religion*., 5(2002), 17-29.

[4] Palloff, R. M., Pratt, K., Assessing the online learner: Resources and strategies for faculty. *John Wiley & Sons*. 2002

[5] http://www.pguni.com/business4/subBusiness.php, (2020)

[6] Park, B. N., A study on students' satisfaction and perception of English communicative language classes in non-face-to-face lectures: Focusing on video lecture and real-time lecture. *English Language Teaching.,* 33(2021), 107-129.

[7] Bonham, S., Levernier, B., and De Bonis, N., The infotechnology gap: Are students ready for innovative uses of technology in learning?. (2011)

[8] Kruse, T., Pandey, A. K., Alami, R., and Kirsch, A., Human-aware robot navigation: A survey, *Robotics and Autonomous Systems*., 61(2013), 1726-1743.

[9] Choi, H. S., A Study on the Non-face-to-face Teaching Experience of College Freshmen due to Covid-19. *2001 Korean Journal of General Education*, 15 (2021), 273-286.

[10] Han, H. J., An Exploration of Interaction Factors and Analysis on Interaction-Level of Synchronous Online Education in University. *Journal of the Korea Contents Association.*, 21 (2021), 14-25.