Measuring the Efficacy of Combining Online and Offline Teaching Methods based on the Cross-Culture Situation: A Case Study of University Students in China

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Received: 30 September 2021
Received in revised form: 17 November 2021
Accepted: 1 December 2021
Published: 31 December 2021

ABSTRACT

The global spread of COVID-19 means students are unable to resume their normal classes. This has led to adoption of online teaching methods. This paper examines how offline learning and online learning methods can be combined to achieve better learning outcomes. The acronym 'OMO' has become fashionable nowadays referring to merging of offline and online learning methods, the latter being internet or app based. A mixture of both methods is expected to produce a good study outcome. In testing this hypothesis, the paper examined a sample of 1000 students from Hebei Finance University in city of Baoding. It also examined the advantages and disadvantages of the OMO methods post pandemic, further more about the students who has the different culture background, so in this situation, they may have different thoughts about the OMO method. Both quantitative and qualitative methods were used in this research, and the challenges of online and offline teaching methods are discussed before putting forward suggestions for future development of OMO learning methods.

Keywords (Times New Roman, bold, 9)
OMO learning and teaching method, university students, COVID-19 challenges, post pandemic, cross culture background, China

Introduction

We are living in an environment shaped and influenced by science and technology. In countries like China, elementary school students are using their iPads for their studies. Nowadays, almost all colleges and universities in China have their own website and a comprehensive e-learning system. This helps students tremendously as they can follow their lessons/tutorials online at their own convenience, upload their essay and communicate with their teachers. E-learning or online teaching makes teaching easier and convenient. Even before COVID-19, many schools and universities in China had already adopted online leaning method using apps, such as Wechat, QQ, university or company website (if the student is working).

In 2020, COVID-19 began to ravage the world, resulting in more than 2 million deaths. With rising infections and a steady death rate, students have been largely confined to their homes or university campuses to prevent the spread of the deadly virus. Online education began to assume a very important role as universities and colleges began to adapt to new methods of teaching and learning (off site but using online methods) while ensuring their faculty, staff, and students exercise public health precaution. The virus is spreading and mutating quickly rapidly, and since its nature is still not well understood and with the emergence of new variants. Consequently, many educational institutes have cancelled all face-to-face classes, and the faculties have been instructed to move their courses online to minimise the devastating impact of COVID-19. Online teaching is no more an option, it is a necessity (Dhawan, 2020).

Online learning is "learning experiences in synchronous or asynchronous environments using different devices, such as mobile phones and laptops with internet access. Students can be based anywhere (independent) to learn and interact with instructors and other students" (Singh & Thurman, 2019). This teaching-learning tool is a student-centred, and results in greater innovation and flexibility in teaching. Online learning is powered by the Internet and the popular tools used are (a) Gmail, (b) Google Forms, (c) Calendars, (d) G-Drive, (e) Google Hangouts, (f) Google Jam board and Drawings, (g) Google Classroom, and (h) Open Board Software (helps in recording meetings in the form of files).

These tools as mentioned are alternative to face-to-face classes (Basilaia et al., 2020). However, these internet-based tools are not without challenges ranging from downloading errors, installation, login as well as audio and video problems, among others. Additionally, lack of face-to-face interaction with the instructor has caused problems, according to a survey on higher education (Muhammad et al., 2020).

In post-epidemic period, an important issue that must be addressed is to ensure successful mixing of online and offline learning methods. This paper examined the effectiveness of OMO by conducting a related survey among 100 students at Hebei Finance University, China. Based on the findings, recommendations and suggestions to improve this teaching-learning method are provided.

Research Method

A scarcity of research on OMO method and its effectiveness is the primary motivation for this paper. Thus, this paper conducted a survey on the effectiveness of OMO learning method among 100 students at Hebei Finance University. Theoretical and empirical data analysis provided the findings and relevant recommendations.

Research design
A survey questionnaire method was used in this research to gather more information on the OMO learning method at Hebei Finance University.

Population and sampling
The sample were 1000 students from different grades and majors at the Hebei Finance University. The whole university has nearly 10,000 students.

Location
Hebei Finance University is located in Baoding, Hebei Province, near the capital city Beijing (the cities of Baoding and Beijing are about 140 kilometres apart). Baoding economy is based on n heavy industry, agriculture and services. Hebei Finance University has a good reputation among students majoring in financial studies.

Instrument
The questionnaires were used to collected the data. Excel and Spss package were used to analyse data.

Data collection
The questionnaires were sent electronically to 1000 students in different grades and majors, and 68 of them were females.

Analysis and Results

A survey questionnaire method was used to collect data on the effectiveness of OMO learning method in Hebei Finance University. Data were analysed and findings were used to provide suggestions and recommendations to improve the OMO method.

The survey finding showed that students who live in the villages prefer to study offline, and this could be due to poor Internet and broadband services or their deprived economic conditions. About 62% of the sampled students lived in the city, 30% in the villages while the rest lived in the village and city at different times of their lives. Answers to the following questions posed in the survey surprised the researcher.

(1) Do you think online learning will replace offline learning fully? The finding showed some fully believed in this while some didn't. This was a rather interesting finding as the impression was students prefer to study online which precludes them from attending classroom having to lug heavy bags, and from answering their teacher's questions directly. Therefore, it is clear offline learning environment cannot be replaced completely as many students still prefer face to face traditional learning method.
(2) How many hours are allocated daily for online study? Nearly 90 percent of the sample said a combination of methods were used; the teachers usually employ the classic teaching method and later upload the materials on the learning website, after which the students can do the quiz and watch the study video on it. About 75% of the students spend an average of one and two hours daily on online learning.

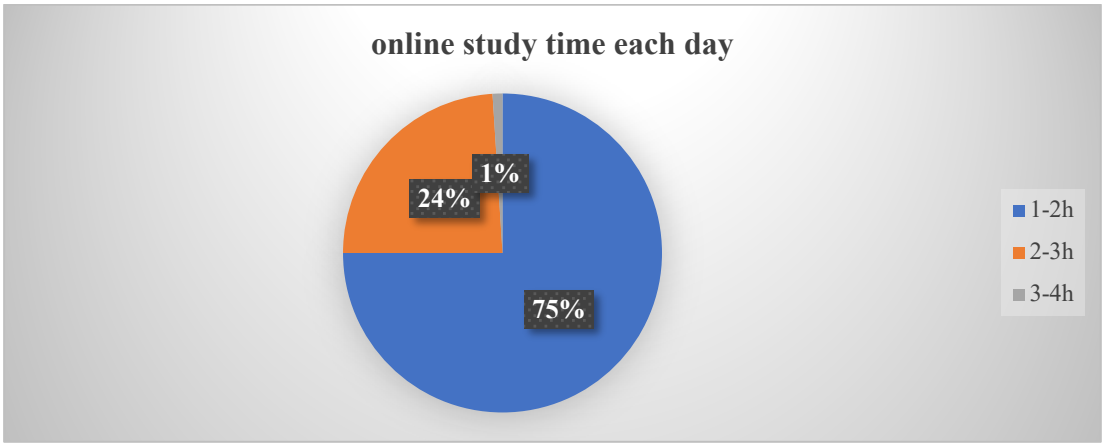

Figure 1. Proportion of learning time

(3) What kind of materials do you like under the OMO learning method? A majority of the students (78%) preferred study methods using video and online quiz as they acquire learning skills easily while the quiz provides them with excitement and enthusiasm. A correct answer is stimulating as it allows them to carry on to the next question.

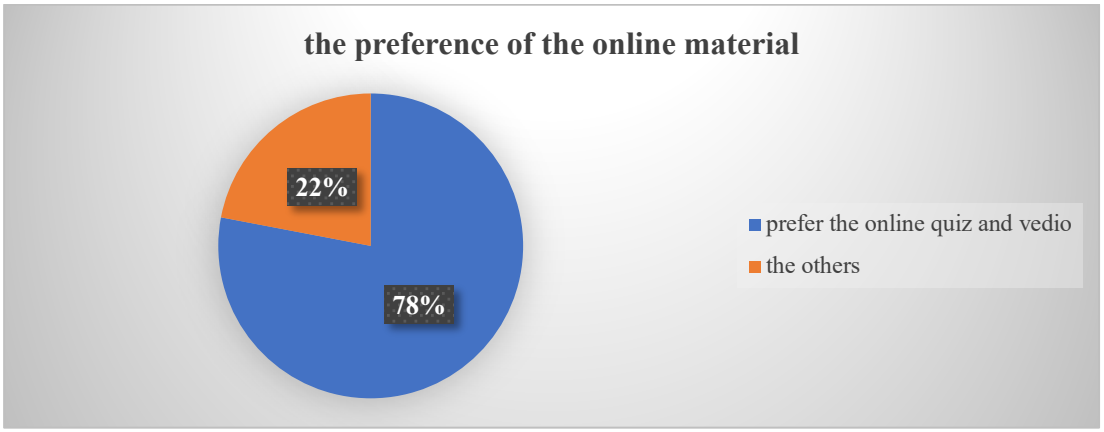

Figure 2. The preference of the online material

The survey also shows that both the local student and the overseas student like the OMO learning method, the score ranked at a high level. Under the cross-culture study background the university and teacher should pay much more attention on the multi-culture management area. The student from overseas has different culture background and study background. These factors would influence their outcome while they were using the same study and learning method.

The questionnaire also included some open-ended questions, such as how to improve the study efficiency. Many said studying together enhanced their learning as they can supervise and prevent each other from using the phone or doing the other things which are not related to study. Another question was on working together during COVID-19 lockdown. Many said they conducted online meetings using the camera so they can see each other online using the plethora of online apps, and they reported that this improved their online learning experience. The students also came up with their own online study schedule to achieve their goals.

The students reported that their offline learning experience as well as blended teaching-learning process was generally good despite some challenges such as too much homework. Additionally, students in different grades and those who live in different cities have different reactions to the OMO method. whereby some of them think the university needs to cut down on time allocated for online study while the rest felt online learning must fully replace offline study. Therefore, balancing these different needs for an effective blended learning process is important so that the teachers can create different study plan for each grade. Further, students specialising in different majors have different opinions on the effectiveness of OMO method, for example those from the accounting and statistics field believed a face to face

interaction was better to produce an effective learning outcome as the contents are not easily understood if they are taught online.

Thus, it is clear there is limited scope for online teaching as some students prefer face-to-face interaction like those majoring in advanced mathematics, accounting and other computational programmes. Online teaching is more theoretical, and it may be less applicable for practical courses. Therefore, for different types of courses currently offered by school, it is necessary to strengthen the classification of courses, and set different online and offline learning hours for practical and theoretical courses. About 50% of the sample felt online courses tended to be "more complicated and scattered". This means teachers must attempt to make online education more systematic and attractive for all students.

Offline teaching is more restrictive for students because the time and place are fixed. This means it has better control effect for students who are not serious about learning. Compared with online classrooms, offline education lacks constraints. However, both online and offline integrated classrooms must have online supervision mechanism. Specifically, it is important to tackle the question of poor learning attitudes to allow this group of students devote themselves to online classes and video. In terms of the "progress control" of "online teaching", 2% of the sample said it was "uncontrollable"; 10% "difficult to control" while the rest said it "can be controlled". Despite good feedback on learning, the supervision of online teaching cannot be relaxed.

On the question if 'online teaching has a learning atmosphere' and 28% of them said "No learning atmosphere" due to no specific requirement for time and space; students can access network terminals and download relevant courseware anywhere. However, some students reported suffering from inertia which made it difficult for them to learn independently (when certain learning atmosphere is absent). Some also face familial interference or disturbance while studying.

Since the time allocated for online learning is relatively scattered and students are not always online, it is difficult to deal with the timeliness of questions and answers. In many cases, teachers are not able to respond quickly to questions. Some teachers though can discuss with their students to set a suitable time for answering their questions. Among the other challenges of OMO learning is students are not active in acquiring knowledge that is not related to their performance statistics. Questions such as: "If this quiz will not be reflected in your final score, then would you choose to do it?" "Are all relevant materials uploaded by your teacher viewed?" "Can the shared instructional video link be actively viewed?" Nearly 30% of the students said they would check all the materials but 65% of them said that depended on their degree of interest in the particular subject or course. Therefore, it is important to find out how students' learning enthusiasm can be improved with the integration of online and offline teaching in addition to stimulating their enthusiasm for learning, improve the efficiency of learning, and how to increase the output of learning.

Discussions and Suggestion

Online classroom teaching is student-orientated. Teachers are responsible for designing their own teaching content. Students can choose the time, space, and learning method and improve their participation. The offline teaching method relies on teachers as the main participant and guide. Therefore, combined with online learning and with student feedback on improving it, teachers would be able to organise and implement interactive activities to make up for the lack of face to face online interaction. Thus, these two teaching methods can be integrated to form a blended teaching-learning process. The overseas students prefer the online reading and video more than the local student because their language barrier, the overseas students thought while they watch the materials online, they would have more time to check difficult word and the important factors. They can choose more courses expect what they were learning at that time. Online learning allows students to learn independently to a certain extent and experience individual learning. There is comprehensive technical and platform environment support for an effective development of online teaching. It is noteworthy that whether it is flipped classroom or a mixed teaching, it is only an enrichment of the model and method. The ultimate goal is to revert to the purpose of education. Online teaching has led to greater absorption of curriculum, and foster personalised learning ability. This online teaching or mobile teaching has become a new trend in the development and reform of education during the COVID-19 pandemic.

This OMO method is a new concept allows teachers to manage the learning process, and it helps to transfer knowledge from offline to online and from the inside of the class to the outside to improve learning outcomes. In sum, advancement of technology has led to an innovative learning experience. Additionally, integration of information technology with

teaching has produced a considerable number of new teaching aids which allow offline and online teaching and learning.

The OMO mode in effect is the combination of such integration, and which have led to the coining of a new term - "Internet +". In short, teaching methods have become more diversified. It is undeniable that traditional classroom teaching has its downsides, such as slow transmission of teaching resources and reduced efficiency. Thus, "Internet +" teaching model that combines online and offline methods has emerged as a necessity, producing some noteworthy success.

School education and technical education, traditional teaching and online teaching have their own distinct advantages, and shortcomings. China is currently taking advantage of the rapid development of information technology to promote a revolution in education.

Information technology, such as artificial intelligence, cloud computing, and educational big data, is subverting school education and teaching traditions as well as reshaping education and teaching ecology. It also has had a profound impact on traditional educational models and methods. Europe, the United States, Japan and South Korea are all committed to a new round of "Internet +" education strategic layout, trying to seize the opportunity of online education, while continuing to enhance the strength of their higher education and international competitiveness.

Colleges and universities should seize the opportunity of large-scale popularisation of online teaching during the epidemic, and give full play to innovative advantages of the integrated development of information technology as well as education and teaching, promote the integrated development of online and offline teaching in colleges, and help realize this new revolution in the: classroom, teaching and educational governance. Through the application of online and offline teaching models, the role of teachers has changed from being class masters to organisers and advocates of a new teaching process. The combination of online and offline teaching has led to a shift in the traditional model from being exclusively-teacher driven, namely "teaching by teachers" to one which is more student centred allowing for "independent learning". The ultimate aim of this blended teaching method is to increase student autonomy in learning, improve and stimulate their interest in learning and their independent thinking ability. It is therefore suggested in this paper, that all these will lead to greater effects of learning.

The OMO method is based on "students as the main body, teachers as the guidance". It combines traditional teaching with new online teaching. Knowledge transfer in class is interspersed with quizzes, consolidation and improvement after class. It is found post-classroom discussion enhances teacher-student interaction, student-student interaction and other exchanges.

The ultimate goal of the offline and online teaching is to adapt to the learning needs of students and enable them to respond to learning content during and post class. This means some strict requirements must be met on online learning. First, students should be able to find the knowledge points they want to learn after logging into their online teaching platform, not just copy the content of the classroom. Online resources include unit guidance, detailed knowledge points, and key and difficult points with video animation or pictures among others. This requires teachers to have a certain understanding of the students' learning level and break down the knowledge points according to their individual needs.

The offline learning environment post pandemic can be a flexible adjustment of classroom teaching content based on the results of students' online learning. This will allow teachers to promptly understand the problems and feedback by students during the online learning, and therefore, adjust their classroom to address these problems, as well as cultivate students' ability to learn independently, analyse and solve problems.

The foregoing has shown that blended teaching method can mobilise students' self-learning initiative, combine online and offline testing and practice sessions to stimulate their interest in learning, as well as enhance the communication between students and teachers. The blended teaching mode can effectively combine advantages of traditional teaching mode and online teaching mode to establish the connection between: education and technology, students and teachers, and learners and learning content. This connection, will lead to a sense of accomplishment for both teachers and students.

The traditional mode of teaching often places heavy emphasis on the leading role of teachers. Teachers dominate the curriculum though they largely do not analyse the capacity of their learning and teaching effectiveness. Students are

passive recipients of the knowledge transferred by their teachers which means there is a lack of active participation or enthusiasm of the former.

The blended teaching model therefore, can assist students to preview the learning content online and provide timely feedback whenever they face difficulties or doubts in learning by sending messages and texts to their teachers. Post class, online extension training, and learning reflections are submitted by the students which allow both parties to discuss and interact in the exchange area. The change promoted by online teaching has led to a change in students' cognitive models and learning methods, and promote their knowledge construction and deep learning.

Subjects taught in schools are characterised by large amount of information and rapid knowledge transfer and update. Assuming that higher education teaching is limited to the interpretation and analysis of textbooks, and the knowledge points involved in the textbooks are different from the real context, the learning effect is bound to be significant and current. Abundant original reading and listening resources on Internet can effectively make up for the lack of 'real' language environment and provide a more authentic environment. Other learning resources can be obtained from intelligent learning platforms, shared quality courses, online open courses, and teaching resource libraries among others. Teachers and students can also use other methods, such as WeChat, mobile apps so as to communicate anytime anywhere to maximise teaching resources.

In the blended teaching model, teachers analyze their students' online learning situation, and can quickly identify their common mistakes and weaknesses. Based on real scenes, they can reasonably create language and work situations in classroom teaching activities, assign tasks driven by problems, inspire students to observe and think, and supervise them s to communicate spontaneously through group cooperation, role playing, and virtual scenes in order to strengthen deep learning capabilities. Teachers can also use the abundant learning platforms and mobile apps to carry out various learning activities in the classroom, such as online sign-in, random questions, challenge answers, and questionnaire survey among others. This organic combination of Internet with classroom teaching meets requirements of the Information Age. Internet tools can not only invigorate the classroom atmosphere, but also enhance students' learning participation. Stimulating student learning and enthusiasm can promote their understanding of learning content, and a sense of successful experience can further enhance their learning enthusiasm, so that the learning process is dynamic and advantageous. By periodically evaluating classroom teaching, combined with the feedback from students, teachers can reflect and continuously improve the effectiveness of curriculum teaching, so that the entire teaching process results benefits both parties.

Conclusion

This paper has shown that on online and offline teaching-learning mode (OMO) has advantages and disadvantages, with the former outweighing the latter.

The new education model which relies on the Internet and its tool is vastly different from the traditional model of face-to-face teaching. The Internet-based teaching model allows for greater freedom and flexibility as students can freely manage their time and adopt their own learning methods and gain greater knowledge as well as improve their learning ability. Therefore, this study concludes that an online and offline integrated teaching methods are beneficial in enhancing students' learning. and boost their enthusiasm for learning.

Teachers use the Internet to vary their teaching methods. This integrated teaching style would increase student interest in learning as well as create a lively atmosphere. The internet is a source of variety of information, which means students can develop interest and acquire greater knowledge. Students can watch video materials repeatedly for greater absorption of knowledge and develop their own learning skills. Making the learning process more repetitive and flexible can lead to a marked ability among students to store knowledge.

Greater scientific and technological advancement will pave the way for a major trend in new teaching methods which integrate offline and online teaching and learning. It is suggested that universities use the Internet as a teaching platform. Teachers should also gradually improve their own teaching methods, diversify their teaching modes, enhance class interest, and adopt mixed teaching modes for better results.

Online and offline teaching model is increasingly emerging as a preferred teaching model for colleges and universities. Blended teaching methods can make up for the shortcomings of traditional teaching methods. However, teachers and

students may encounter some teething problems, for example, increasing the participation of students is still a problem that needs to be considered by teachers and academic administrators. Developing a network teaching platform also plays a vital role in enhancing the effect of classroom teaching. Only by constantly updating and improving teaching content and resources, teachers can communicate and interact with their students in a timely manner, meet the students' learning needs and enhance their motivation to learn, and create a better talent.

"Internet+ education" is a new trend in the reform of higher education. It has effectively solved some of the current problems of modern education by making up for the shortcomings of traditional teaching. This new teaching model which is the blend of the tradition and innovation not only has shown to stimulate the interest of college students in learning, it has also cultivated student initiative and creativity and encouraged them to develop good learning habits. This blended teaching model breaks through the boundaries of "time and space" and extends the classroom to the off-class, so that students and teachers can interact in real time. The "close" communication between teachers and students helps teachers conduct reasonable academic analysis to design more scientific teaching methods. The future of higher education is premised on the reform of education which promotes knowledge seeking and learning via the "Internet+" and which will be deeply embedded in the traditional teaching process.

Online teaching where teachers and students "see each other across the screen" will reduce both the control of teachers over the classroom and the students' sense of real participation. Teachers need to be better prepared for online teaching which makes their profession easier by creating courseware using information technology. Additionally, they need to provide students with a sense of participation by activating the online classroom atmosphere, increase the frequency of offline classroom interaction, and improve classroom teaching effects. Therefore, it is an ongoing challenge for teachers to continuously improve the OMO teaching concept so that students can show good progress via this mixed learning method.

References (APA 6th edition)

Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. *Online Submission*, *2*(1), 45-51.

Anwar, K., Shintasiwi, F., & Mulianingsih, F. (2020). Teacher Optimization in Utilizing Media Literacy for Social Science Learning in Semarang. *International Journal of Emerging Technologies in Learning (iJET)*, *15*(7), 141-148.

Basilaia, G., Dgebuadze, M., Kantaria, M., & Chokhonelidze, G. (2020). Replacing the classic learning form at universities as an immediate response to the COVID-19 virus infection in Georgia. *International Journal for Research in Applied Science and Engineering Technology*, *8*(3), 101-108.

Celesio, G. A. (2020). Instructors' engagement or non-engagement in research: Towards construct development. *The New Education, 62*(4), 157-171.

Dhawan, S. (2020) Online learning-A Panacea in the Time of COVID-19 Crisis, *Journal of Educational Technology Systems, 49*(1) 5–22.

Juszczyk, S. & Kim, S. (2020). Distance Learning in the Polish and Korean Universities During COVID-19 Pandemic, *The New Education Review, 62*(4), 115-127.

Popovych, I. S., & Blynova, O. Y. (2019). The structure, variables and interdependence of the factors of mental states of expectations in students' academic and professional activities. *The New Education Review*, *58*(4), 293-306.

Romanovskiy, O., Reznik, S., & Chebakova, Y. (2019). Peculiarities of Perception of Teaching Style and Motivation of Students' Learning. *The New Educational Review*, *58*(4), 72-84.

Santha, K. (2020). Using unstructured cognitive maps to analyse the reflective thinking of teachers: Results of qualitative research, *The New Education Review, 62*(2), 151-164.

Seo, E. H., & Kim, M. J. (2019). The effect of peer tutoring for college students: Who benefits more from peer tutoring, tutors or tutees. *New Educational Review*, *58*, 97-106.

Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education, 33*(4), 289–306.

Sitko-Dominik, M. (2019). Generational Membership and the Intensity of Social Media use Among Young Adults. *The New Education Review, 58*(4), 122-132.

Questionnaire of the Survey

The investigation of OMO study method in Hebei Finance University

The purpose of this questionnaire is to obtain feedback on OMO method which is used at Hebei Finance University. We hope that you will be able to answer all questions sincerely to help the research team to improve this subject. All feedback will be kept confidential. Your cooperation in completing this questionnaire is highly appreciated.

Section A: Demography

Sex:

☐ Male ☐ Female

Residence:

☐ City ☐ New Village
☐ Suburbs ☐ Hostel at University Campus
☐ Village ☐ Others: _____

Years of study:

☐ Year 1 ☐ Year 4
☐ Year 2 ☐ Others: _____
☐ Year 3

Faculty / School of Studies / Academy:	
State:	

Program / Field of Study:	
State:	
Local student oversea student (If you are oversea students write down your country)	

No.	Item	1	2	3
1	The OMO method is particularly appropriate for students			
2	The lecturer who conducts this course is knowledgeable in the subject taught			
3	Subject allows students to apply moral values in their daily life			
4	Lecturers combine traditional and modern teaching methods			
5	Teaching uses appropriate and engaging teaching materials			
6	Learning can be linked to current issues through the usage of technology			
7	Teaching and learning conform to the main content of the course which discusses the study of science and technology			
8	The technology used can attract student's interests in teaching and learning sessions			
10	Students give more focus during lectures			
11	Students and lecturers are always in discussion			
12	I understand what is being taught during lectures			
13	This method gives good impact on study			
15	This method provides an understanding on the challenges of learning			
16	This course explains the method of problem-solving regarding Teaching and learning Process			
17	I understand more while using this method			

18	Your understanding of the OMO learning method is clearer than before.			
19	To mix the offline and online learning is a new way of study.			
20	The offline learning can be totally replaced by the online learning?			
21	The negative influence on the online learning during the COVID-19 is bigger than before.			

The score 1.2.3 means its influence is getting larger.

22	How long did you paid on the OMO learning method each day? Answer:
24	What is your preference of the online study material? Answer:
23	To improve the study efficiency, what do you usually do? Please list some key words here. Answer:
24	How many courses do you take right now that used the OMO teaching method? Answer:
25	What key factors of the face to face learning method should be kept and mixed with the online learning? list some key words. Answer:
26	Does OMO learning methods bring you some convince? Please list some key words here. Answer:

Suggestion/Comments:

_____

_____

_____

Thank you for your cooperation in answering this questionnaire.