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Evaluation of a Full Online Course under Covid-19 Pandemic

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ABSTRACT. The aim of this study is to build the model of full online teaching in the response to the policy of "Suspended Class, Ongoing Learning" under the background of COVID-19 pandemic and to evaluate the model with the case study of the full online English listening comprehension course for Chinese undergraduate English majors. The survey adopted Likert Scale questions with five degrees to evaluate students' satisfaction with the online course which is divided into the following four dimensions: teaching delivery, learning environment, administrative issues and learning effect. Each dimension is composed of several sub-dimensions. The descriptive statistical method is mainly used to analyze the basic status and overall characteristics of students' satisfaction with the online course and the mean values and standard deviations were calculated. The multivariate linear regression analysis is mainly used to explore the factors influencing students' satisfaction with online course and to further explore the influence of these factors on the overall satisfaction of course. The quantitative analysis shows that overall students were satisfied with the efficacy of online learning and all factors designed in the questionnaire have a significant impact on the four dimensions respectively. However, the quantitative analysis together with the multiple choice question and the open-answer question also show that compared with the face-to-face learning, online learning have certain deficiencies such as in interactive effect; therefore, it still played the complementary role and could not completely replace the traditional classroom. Full online teaching practice is feasible, but considering its limitations, "online-merge-offline" hybrid teaching mode is recommended in the future after COVID-19 pandemic.

KEYWORDS: Online course, Tencent classroom, "suspended class, Ongoing learning"

1. Introduction

At the end of the year 2019 COVID-19 pandemic across China and the world, and the first-level response to major public health emergencies was launched nationwide. Education and teaching at all levels in China could not be carried out as normal as before and in this context, the ministry of education promulgated the document to direct the organization and administration of colleges and universities' online teaching during the epidemic prevention and control, requiring that school at all levels should actively carry out various online teaching activities to guarantee the teaching progress and teaching quality during the epidemic prevention and control by making full use of online moocs, high-quality provincial and school online teaching resources, the online course platform of all types and at all levels, the campus network learning space, etc. so as to realize "Suspended Class, Ongoing Learning" policy. In response to the call of the ministry of education, colleges and universities across the country have carried out online teaching practice for the whole population by comprehensively applying various means of information and technology. Online streaming became the preferred way to implement the policy of the Ministry of Education. It is the first time that large-scale online teaching replaces normal school teaching at all levels in China.

The vast majority of students receive the courses by taking part in live online lectures, and about two-thirds of parents of primary and secondary school students say their children started new compulsory education courses. However, many teachers were forced to implement the complete online teaching mode without the online teaching experience and not understanding the characteristics of online teaching. Most teachers will use the method of live streaming to completely move the classroom teaching to live streaming classes; but in fact, there is still a difference between live streaming classes and face-to-face classes. Predictably, the massive online delivery will change the meaning of "classroom", but face a series of problems as well. There are too many uncertain factors such as network congestion and hardware conditions of teachers and students, and there is also a discount in the interactive communication effect. It is necessary to

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design and implement an efficient online teaching model that conforms to the learning rules.Numerous studies have been documented with comparable outcomes from online-learning and traditional face-to-face classroom instruction; however, the present study is considered to be the first trial of conducting an online course for full-time undergraduate degree programs from learners' perspective. The aim of this study is to build the model of online teaching in the response to the policy of "Suspended Class, Ongoing Learning" under COVID-19 pandemic and to evaluate the model with the online teaching practice of English Listening Comprehension course for Chinese undergraduate English majors using "tengcent classroom" and qq group apps.

2. "Tengcent Classroom"

"Tencent classroom" is an online education platform developed and launched by tencent software, which as an open platform, integrates Internet with offline traditional classes to provide a more comprehensive and appropriate way of education. There are also live and recorded classes, so that learners can find the courses they are interested in to register for study. "Tengcent classroom" maximizes the simulation of offline classroom. It can realize smooth on-line video live with good sound quality and has the function of "sharing screen", allowing teachers to adjust a certain area of the computer screen to share with students. This function can support video and audio playing as well as PPT. "Tengcent classroom" has a comment area, which allows discussion between teachers and students, and facilitates the immediate mutual interaction. Through deep integration with tengcent QQ, "tencent classroom" can manage classes and students through QQ group.

The natural clustering effect of QQ group promotes the interaction between teachers and students. When learners can join the official QQ group certified by the institution, they can interact with classmates and teachers in the group, and even add teachers as friends to realize one-to-one online teaching guidance. Besides, both teachers and students can post the messages as well as upload materials in QQ group. QQ group is also a good way for teachers to manage classes and students. For example, group manager can identify the identity of students who join the group by name, and understand the learning situation of students by data. When having class, the teacher can post the course link provided by "tengcent classroom" of the teacher port to the QQ group so that the students can click into the virtual classroom. The teacher can also establish the class schedule by virtue of the QQ group bound in "tencent classroom", and the group members can search for courses through the class schedule and directly click into the website to register, so as to achieve the effect of long-term maintenance for users in the group. With "tengcent classroom", classes are not limited by time and space. "Tencent classroom" can break the traditional classroom teaching methods and teachers do not need to teach students face to face, as long as there is a network, with either computer client or mobile phone client. The course can also be made into a recording way to watch repeatedly so that "tencent classroom" can break the restriction of time and space of traditional classroom and is effective to save the teaching resources as well as enhance the students' interest in learning when they have the flexibility to choose when and where to study.

3. Methodology

The participants were 67 first-year English majors of the School of Foreign Studies, in Huzhou University, Zhejiang, China to attend a 2-credit 32 class periods compulsory degree course.The instructor has registered an account on "tengcent classroom". The English Listening Comprehension course syllabus followed the curriculum designed by the English Department. The total duration of the course was 32 class periods, which was scheduled as two periods weekly for 16 weeks with 8 weeks for online course. Four units were taught covering the practice of phonetics, note-taking, dialogue, passage, news, oral work and video. Activities of each class include on-line video, audio playing, video playing, group discussion, and autonomous study. During video and audio playing, students were required to take notes and submit the photo of the notes in the comment area; the comment area does not support mobile phone, hence those using mobile phone can submit notes through QQ group (QQ group is not encouraged because the files uploaded though QQ are too large so as not to be conveniently saved).

The course was offered in English, and because of the influence the novel corona virus, the textbooks were not available and the electronic text books and recordings were uploaded to students with the permission and the assistance of the publishing house.At the end of the online part of the course, the students were invited to submit a questionnaire. Only students who attended the whole course were selected.

The questionnaire consisted of three parts: 13 Likert Scale questions, a multiple choice question and an open-answer question. The 13 Likert Scale questions with five degrees points from 1 (strongly disagree) to 5 (strongly agree) are designed to evaluate students' satisfaction with the online course which is divided into the following four dimensions: teaching delivery, learning environment, administrative issues and learning effect. Each dimension is composed of several sub-dimensions. There is also a multiple choice question asking the students' opinion about the online course when compared with traditional classroom learning and the open-answer question aims to record student's comment on the online learning and their suggestions to improve the online course. The internal reliability of the four dimensions and

the overall questionnaire was further tested. The Cronbach's Alpha of the four dimensions is 0.734, 0.701, 0.717 and 0.834, respectively, indicating that the satisfaction scale designed in this study has a high internal consistency. KMO test and Bartlett test were carried out for the structural validity of the questionnaire. The test results showed that the KMO test coefficient was 0.641, greater than the critical value of 0.5, the chi-square statistic of Bartlett sphericity test was 294.656, and the P value was 0, less than the critical value of 0.05, indicating that the satisfaction questionnaire designed in this study had a reliable structural validity.

The questionnaire was collected anonymously. Only one student from Tibet could not attend the online course because of the internet issue and all the rest 66 students completed the questionnaire, among which 66 students answered the multiple choice question, and 40 students offered suggestions to improve the online teaching with response rates of 100%, and 62.6% respectively.

4. Results and Discussion

This paper mainly adopts quantitative research methods, including descriptive statistical analysis and multiple linear regression analysis. The descriptive statistical method is used to analyze the basic status and overall characteristics of students' satisfaction with the online course and the mean values and standard deviations were calculated. The multivariate linear regression analysis is adopted to explore the factors influencing students' satisfaction with online course and to further explore the influence of these factors on the overall satisfaction of course. This study uses SPSS Statistics 17 to count according to analysis and hypothesis testing.Regression analysis is a mathematical statistical method to study the correlation between variables. The weight of each variable can be determined according to the regression coefficient of the multiple regression equation. In order to further understand the effect of the sub-dimensions on the comprehensive satisfaction of the four dimensions (the teaching delivery, administrative issues, learning environment and learning result), this study sets up the multiple linear regression model respectively by taking the comprehensive satisfaction of each dimension as the explained variable, and that of its sub-dimensions as explanatory variables. Based on the analysis of the Likert Scale responses, this study provided a statistically positive attitude toward online-learning, reflecting the success of the experiment in the viewpoint of the students. This is in accordance with many studies which were done in the field of web-based learning. Papillion & Aaron found students achieved higher satisfaction and motivation in the online versus face-to-face teaching contexts[1]. Pryjmachuk et al. studied the effect of learning satisfaction and arrived at the similar conclusion that increased satisfaction enhanced the retention of students and facilitated lifelong learning[2]. Matlakala et al. indicated that online teaching can motivate students and facilitate them in developing effective problem-solving skills including critical thinking and knowledge acquisition and retention[3].

This study also showed that online learning model created a non-threatening and user friendly learning environment. This is in line with Sheringham et al.'s study that the flexibility of online learning assisted students' study and they attributed the reason to the easiness of the task management, relaxing working conditions and study needs[4]. "Tengcent classroom" is user-friendly, which allows easy navigation, clear instructions on what to do and access to the course materials with the assistance of QQ group, posing fewer management issues for students.

The form of live streaming of live videoing requires that the instructor be present and even visible to teach and communicate at specific time (required by time-table) The social presence of the teachers can make students feel connected to the class, otherwise, the students would feel the lack of accountability. As Angelino, Williams, and Natvig pointed out that one important factor for the failure of online students is the feeling of disconnectedness and isolation[5]. The facilitating role played by QQ group consolidates the effect since it makes the instructor available at any time and space to give instant feedback to students. The responses of the multiple choice question of the present study showed that although about half of the students consider the online learning equally effective as face-to-face learning, only 15% of the students preferred online learning compared with the traditional face-to-face learning. The result can be the evidence for the effectiveness of online learning but it still played the complementary role and could not completely replace the traditional classroom. This conclusion is consolidated by the problems or weaknesses of online learning.

Among the limitations of the online instruction, the biggest weakness of online courses is undoubtedly the interactive effect, compared with classroom teaching. Students need face-to-face discussion with teachers and students, which is not only the transmission of knowledge, but also the influence of teachers' thinking mode and teaching charm through real world interaction. However, this result is in disagreement with some studies abroad regarding the level of student engagement. Junco et al. [6] and Evans[7] demonstrated that the use of Twitter for teaching increased students engagement. Jaffar documented that Facebook can be used to supplement the traditional classroom to increase interaction with students[8]. Hennessy et al. by evaluating the influence of Twitter on the students' engagement and learning experience, concluded that the use of Twitter played a major role in enhancing their communication with teachers[9]. The present study also used QQ group as the complement to Tengcent classroom, but it obviously did not achieve the ideal effect as shown in the studies abroad. This might due to the function inadequacy of QQ group compared with Twitter or facebook. But, it might also be due to the difference of the interpretation of communication in the online environment from

face-to-face communication. Telford & Senior [10] found that the lack of auditory and facial cues made interpretation of the postings difficult.

The present large scale online teaching is the emergency measure in the response to COVID-19 pandemic. This research seized the opportunity to evaluate the efficacy of total online teaching. Based on the analysis, we can make some suggestions for future teaching and learning. First, learning requires the exchange or even collision of ideas. The study has revealed the lack of interaction of the online course, which can be improved by setting up study group to form student learning community and let the student learning community become the protagonist of online teaching. In the information age, the knowledge can be acquired through the internet and we have to admit that the students' information technology literacy is no inferior to teachers, and they are able to harness technology for their service. Teachers need to make good use of the technical ability of students, and guide them to make better use of technology environment to support the learning activities. Teachers design the activities and make rules, so that students have clear themes to talk or task to fulfill, and each member has the opportunity to express their opinions. Therefore, in class it is no longer teacher-centered but student-centered, so that students take the initiative to learn and are more engaged in class. Second, online course should establish multiple assessment methods especially formative methods to evaluate students' mastery degree and ability to apply knowledge, so as to make the assessment process more objective, reliable and comprehensive. The course is subject to “class time assignment (20%) (class notes, quiz, etc.), after class assignment (10%), mid-term exam (20%), and final exam (50%)”. Pay attention to the learning process of the assessment, so that the assessment tends to be more reasonable and fair. Various activities are an important basis for process or formative evaluation, which will also play a role in motivating learning. To fully make use of advantages of online instruction, we can gain the benefits of both online learning and face-to-face learning by applying the blended instructional approach. Blended teaching is defined as the combination of Internet and digital media with traditional classroom forms requiring the face-to-face communication of both teachers and students. Third, after COVID-19 epidemic, a blended online and offline course form should be the mainstream of the classroom. As Makhdoom et al. [11] and Wu et al. [12] reported, the blended learning teaching allow students to gain the advantage of online learning, as they can review the online materials at their own pace so as to enhance their learning effect. Moreover, they will avoid the disadvantage of online learning as their learning is guided by instructors both online and face to face. Liu et al. evaluated the effectiveness of blended learning and proved the positive effect of blended learning. To consolidated the efficacy of blended learning, teachers can also try more diversified teaching methods, such as inviting experts to the school to facilitate discussion and answering questions between teachers and students. The analysis of chapter test results is added to facilitate students to strengthen their understanding and grasp the weak knowledge points.

5. Conclusion

Since the epidemic prevention and control of COVID-19, it has been proved that “full online” teaching practice of is feasible. Live lectures can replace the traditional class with by means of various platforms, WeChat, QQ group and other online alternatives. But live lectures during the epidemic are complementary to teaching methods and should not be in the dominant position. Online teaching in “tengcent classroom” in this study appears to be a successful implementation among English majors as to the course of English Listening Comprehension. Using the screen sharing function of “tengcent classroom” can reduce online learning network congestion and reduce the pressure of teachers and students to participate in live lectures so as to improve the learning efficiency. We strongly recommend conducting further studies on different curricula with the use of varied platforms to get the optimum benefit to enhance students’ learning.

Although the results of this study have been informative about the efficacy of online teaching, it has certain limitations. The study only investigated English Listening Comprehension course, with 66 participants of English department; therefore, students’ responses may be different for other courses. At present, since teachers and students use online teaching every day, familiar with the characteristics of online teaching and the construction of resources, they have mastered the use of many platforms and intelligent teaching tools, which will provide a good opportunity for the reform of traditional classroom teaching. Therefore, it would be necessary to make further trials involving more participants of varying courses. Assignments and exams were not well provided in this study and no assessment is conducted to evaluate the learning result except for the questionnaire from the subjective standpoint of the students.

To achieve better goal of online teaching, there are many other problems to solve: how to guide students, including the preparation of guidance plans, the selection of resources, the production of micro-lessons, etc.; how to help students, including counseling, the use of learning tools, etc.; how to promote learning, including individual care, psychological counseling, learning guidance, etc.; how to evaluate the study, including the selection of platform, data analysis, diagnostic feedback, etc.

It can be predicted that after COVID-19, online course construction will usher in a new peak. Prior to this, the online course construction of some colleges and universities has a certain degree of utilitarianism, mainly guided by the identification of national quality online courses, so that they usually attach more importance to construction than to realistic application, hence the course construction is not systematic and sustaining. After this outbreak, the construction

of online courses will turn to practical application as the target, and the construction of online courses will be comprehensively popularized, forming a state-province-school-level online course construction and application system.

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