ONLINE TEACHING IN INTERNATIONAL UNDERGRADUATE PROGRAMS

DURING THE COVID-19 PANDEMIC:

STUDENT SURVEY ANALYSES

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Abstract: The COVID-19 global pandemic has put the world's Education system under great challenges, however, it also made Blended Teaching (a combination of traditional face-to-face / Offline Teaching model and internet-based technology-aided Online Teaching model) a new normality. Mass online teaching, although forced into action nationwide and worldwide for the first time ever, resumed the education systems' teaching order and fulfilled the students' basic learning needs, yet also exposed many problems. The author concentrated her study on the online teaching model via Zoom of the 3 international undergraduate programs in one typical university in China by conducting interviews and online anonymous student survey and analyses using both Excel and SPSS, and discovered some existing issues in the university's infrastructure, English language abilities of the students & their career expectations. The research provided some meaningful contribution to the administration and sustainability of the international cooperation programs of the university and all similar HE institutions in China, if not globally.

Key words: Online Teaching, Chinese Higher Education, Internationalization, Covid-19 pandemic, Sustainability

1.Introduction

The Covid-19 (Severe Acute Respiratory Syndrome Coronavirus 2, SARS-CoV-2) pandemic has made a huge impact to the global politics, economy, culture, public health, education and so on. According to WHO Coronavirus Dashboard, as of 4:16pm CET, 31 January 2023, there have been 753,479,439 confirmed cases including 6,812,798 deaths reported to WHO globally. The world new case number and death toll are still increasing on a daily basis regardless the protection of Covid vaccines. In China, the first nation affected by the pandemic, Wuhan city was subject to a travel quarantine on January 23, followed by a province wide lockdown for the 45 million residents of Hubei on January 30 (Chapman & Tsuji, 2020). Higher Education (HE) institutions in China have since then been experiencing many great challenges, especially their international undergraduate cooperation programs due to not only the lockdowns and social distancing measures but also the international travel restrictions and quarantine rules.

As an important part of internationalization in Chinese HE, most of such international undergraduate programs (typically 4 years in total) involve up to 1/3 of the curriculum being delivered by their foreign partners (colleges and universities overseas) during the 2nd and 3rd academic year, and provide two options to the students in the final year (Option A- continue studying in the host Chinese university and obtain one Bachelor Degree in China, or B-study abroad in the partner university and obtain Double Bachelor Degrees as one from each country). However, the Covid-19 global pandemic has also forced most of the foreign partner schools to change their usual intensive face-to-face offline teaching model (normally delivered as a chunk within 4-6 weeks per semester)

into technology aided online teaching model. The online teaching in colleges and universities during the COVID-19 epidemic is the first large-scale teaching activity using Internet technology in the history of higher education in China (Wu & Li, 2020). 2282 HE institutions with Chinese-foreign cooperation program(s) across the country used online teaching for their foreign lectures since the pandemic (Cui, 2020). Some of their partner institutions overseas weren't even able to spare enough qualified lecturers to deliver online teaching due to various issues of their own because of the pandemic. According to the recent update by Chinese Education Ministry, 412 (19%) such programs were experiencing enrolment suspension or even cancellation. In the past a few years, many researchers conducted researches about online teaching, but fewer literatures were found focusing specifically on the online teaching delivered in English by the foreign HE institutions in international undergraduate cooperation programs. As an external consultant, the author conducted an investigation to a selected Chinese university as such for her research in Jiangsu province, where two of the university's three international cooperation programs enrolment were officially suspended. Interviews to the Management Committee of the university confirmed that "Online Teaching Model" and "Option B Student Number Decrease" were the two major changes directly caused by the influence of Covid-19 pandemic.

The author's Online Student Satisfaction Rate Survey showed a high satisfaction rate (90.18%~96.01%) towards the online lessons delivered by the two partner universities in the United Kingdom and Denmark, which matched the description of "minimal change in the student examination records pre-pandemic and since the pandemic" by the programs' management committee. The

survey, however, did expose some problems in the programs and the university, which provided valuable references for the future management development in order to keep the sustainability of the international cooperation programs for said university and other Chinese colleges and universities with similar international undergraduate programs.

2.Methodology

The author interviewed the Management Committee of the 3 international undergraduate Double Degree (DD) cooperation programs (Sino-Danish Pre School Education program, Sino-Danish Civil Engineering program, and Sino-British Software Engineering program) and designed an anonymous Online Student Satisfaction Rate Survey for the enrolled 603 students in a typical university in Jiangsu Province, China. 367 students voluntarily participated in the survey, among which 41 freshmen data was considered invalid (foreign HEs curriculum starts from the 2nd academic year and most senior students chose option A since the pandemic began so ONLY data collected from students on their 2nd, 3rd and 4th year was considered valid). The survey has Grade (sophomore, junior, senior), Major (Pre-school Education - PSE, Civil Engineering - CE and Software Engineering - SE) and Gender (Male, Female) as the 3 Independent Variables, and 21 Dependent Variables including: Teaching Plan, Pre-Covid Teaching Model, Covid Teaching Model, Online Platform, Network Speed, Teaching Materials, Learning Equipment, Student English Ability, Student Knowledge Ability, Pre-Covid Teaching Quality, Covid Teaching Quality, Pre-Covid Teaching Overall, Covid Teaching Overall, Teachers Competence, Pre-Covid Classroom Communication, Covid Classroom Communication, Career Expectation, Pre-Covid After Class Communication, Covid After Class Communication, Overall, and Complaints and Advice as optional. The satisfaction rate has 5 Scales: "1" is very satisfied marked as 100, "2" is satisfied marked as 80, "3" is ok and average marked as 60, "4" is unsatisfied marked as 40, "5" is extremely unsatisfied marked as 20.

Descriptive-Frequency statistical analysis of the 326 valid results was used in order to observe the Mode, and Paired Samples T-test was applied on all the Pre-Covid and Covid paired sections under **Excel**. The author then excluded the 176 results without any of the 3 independent variables and applied **SPSS** to analyze the 150 fully labeled samples in Frequency, Crosstabs, and One-way ANOVA in order to detect various sections of significance. Data analyses were eventually compared with the Management Committee's interview reports to draw final conclusions.

3.Results And Discussion

3.1 Overall satisfaction rate and significance by Excel analysis

The Descriptive-Frequency analysis and Paired Samples T-test of the total 326 student survey results by Excel displayed a general mode of scale "1" as very satisfied, except scale "3" as average in Student English Ability & Knowledge Ability. Significance (P-value 0.0036 < 0.05) between Pre-Covid & Covid Teaching Quality were found. This means the students found a great difference in their foreign lectures Teaching Quality between offline and online. Even though this might be subjective opinions from the students, it would be worth further attention and observation by the management team.

3.2 Significance found in various sections by SPSS

Frequency, Crosstabs, and Single Way ANOVA to the 150 fully labeled data showed below significance:

Frequency showed scale "1" as "very satisfied" in all 20 dependent variables, and scale "3" in Student English Ability as "average". This also matches the EXCEL analysis to all the 362 samples. It calls for the programs Management Committee to consider additional English language training for the students.

Crosstabs displayed more than 73.92% students are "satisfied" or "very satisfied" and more than 90.18% students satisfaction rate is above average. According to the analysis of questionnaire in a different research done by Jiang (2020, pp. 2-3), "37.11% of the students thought that online teaching was the same as the previous classroom learning, 48.45% of students thought that online teaching was not as good as the previous classroom learning, and 14.43% of students think that online teaching is better than the previous classroom learning", and another survey analysis by scholar Cui (2020, p. 61) with "the satisfaction ("satisfied" and very satisfied") rate of online teaching delivered by the foreign teachers in the Sino-Australian and Sino-British classes as 86.44% and 86.08% respectively". The satisfaction rate in the author's chosen university here appears to be much higher than Jiang's research subjects but lower than Cui's. This result matches the description of the interviewed Management Committee of the university and is reflected positively by their students' Study Records.

However, Chi-square Test and One-way ANOVA showed significance in various sections between Major PSE and SE / Gender and the 20 dependent variables. Significance were detected in below 6 sections (P-value less than 0.05 sections were listed for significance observation):

Major	Online Platform	Network Speed	Equipment	Student English Ability	Career Expectation	Gender
PSE	.012	.042	.026	.035	.001	
SE						.000
CE						
Gender	.008	.002	.019	.009	.001	

Figure 1: Summary of the significance (p<0.05) between variables

*Please note the fact that more female students are studying in Pre School Education (PSE) than in Software Engineering (SE) and Civil Engineering (CE) programs.

Lower Students Career Expectation in PSE and SE programs should be further investigated by the university at an appropriate time.

Paired Sample T-test by SPSS to the 150 fully labeled samples also showed similar significance as the analysis of the all 326 samples by Excel. Even though this might be subjective opinions from the students, it would be worth further attention and observation by the management team.

Paired Samples Test									
		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2–tailed)
Pair 1	PC Teaching Quality – Covid Teaching Quality	-.10000	.48811	.03985	-.17875	-.02125	-2.509	149	.013
Pair 2	PC Teaching Overall – Covid Teaching Overall	-.07333	.47905	.03911	-.15062	.00396	-1.875	149	.063

Figure 2: Significance in Pair 1 (p<0.05) but no significance in Pair 2 results

3.3 Presentation of the optional independent variable as complaints & advice

Below pie chart reflected some of the existing issues in the university.

22.22% of the complaints were about Zoom platform quality and internet speed.

11.11% students complained about "foreign teachers missing class".

29.63% students were clearly positive & 7.41% were clearly negative about the programs.

7.4% students weren't confident about their English levels.

7.41% were looking forward to face to face learning.

3.7% expressed that they needed more theory lessons.

7.4% students had problems keeping up with the teaching schedule.
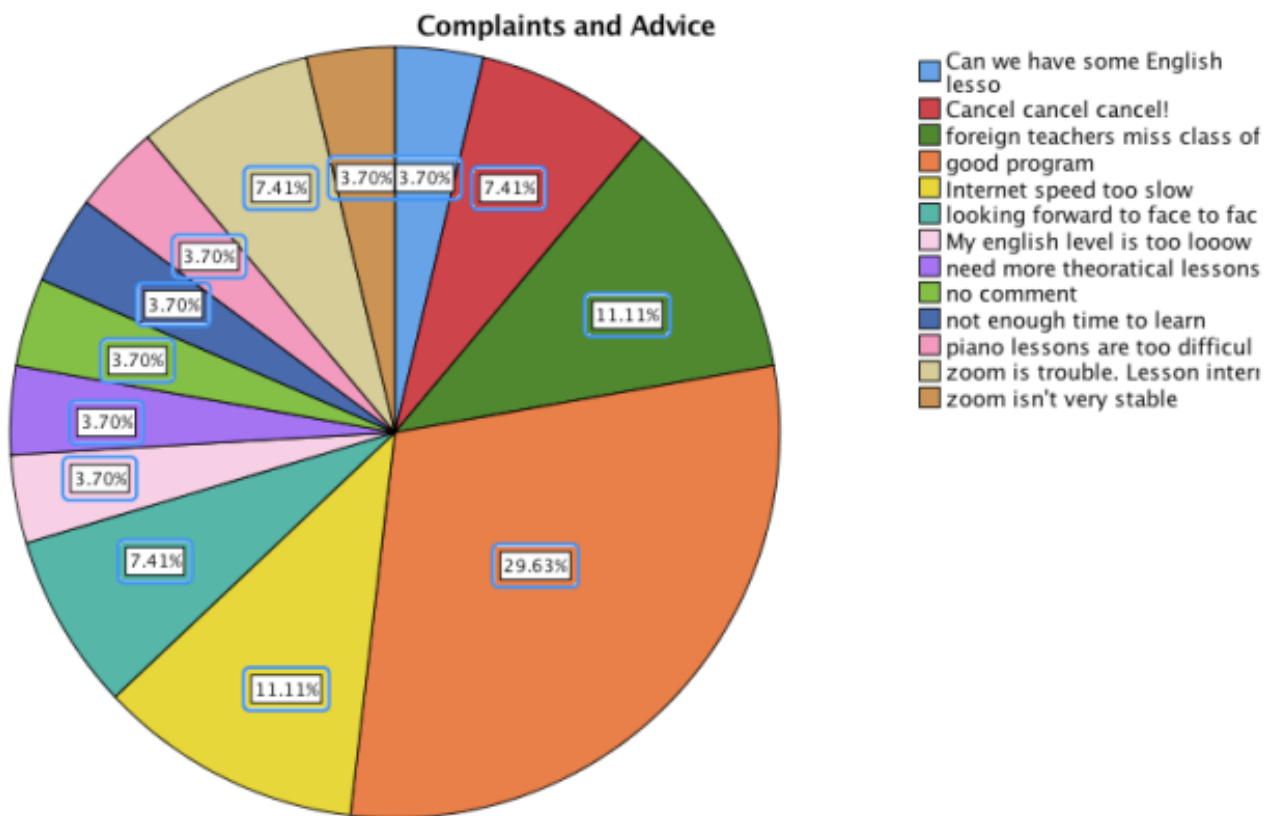
3.7% left no comment.

Figure 3: Pie chart of the optional section

This optional section with independent variables shows small percentages of negative comments, however such results also reveals some true concerns from the students towards various problems such as the university's technology support for online classes, communication and management with the programs' overseas partners and their foreign lecturers involved, students' English language skill training needs, curriculum development, and so on. The online teaching quality of international cooperative education programs should and could "…be improved, including integration of teaching platforms, optimization of teachers' teaching ability and level, and construction of students' learning service system etc" (Jiang, 2020).

4.Conclusion

The survey analysis outcome proved that the majority of students were satisfied with the Online Teaching delivered by their foreign lecturers, but had different problems and some negative opinions about the programs and the university. This also matched the students' Study Records and the interview reports of the

programs' Management Committee. The significance sections and practical issues were reported back to the leaders of the university with relative recommendations.

This research also reflected some common problems of infrastructure such as campus network speed and teaching platforms in most of the Chinese HE institutions with international cooperation programs that involved online teaching. The COVID-19 pandemic might be "a pivotal moment of opportunity for the reshaping higher education, with the implementation, development and diffusion, among academics and students, of digital technologies" (Sá & Serpa, 2020). Online teaching has definitely played an extremely important role in global education and the development potential is yet to be expected.

"Students are the main body to evaluate whether online teaching and offline teaching are actually effective", as well as the centric part of modern education. In a time when online teaching is regarded as normality and novelty, "…teachers are required to quickly establish a student-centered teaching concept and improve online teaching ability and level" (Jiang, 2020). The students' true voices deserve being heard, their concerns need to be addressed and the problems that they have must be solved. The success of such international cooperation programs in China should not only be judged by the students' Study Records, but also be evaluated by the students' genuine experiences. Satisfied students are happy students, whose negative comments will help with the improvements and further developments, while their positive feedbacks will ensure the sustainability of international cooperation programs of the Chinese HE institutions. This research, however, was merely an example from one Chinese university from the author's understanding and professional angle and was done in the end of 2021. Future research and practice in more Chinese HE institutions with international cooperation may provide much bigger data base for analyses, and more specific variables suitable for their different programs and situations could also contribute much more accurate and wider range of inputs in this field.

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