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Chinese Higher Education in the First Year of COVID-19: Policy Changes and Students' Perspectives

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Abstract: This study, which focuses on higher education policies and students' opinions of higher education during this time, is set in China during the start of the COVID-19 pandemic. The investigation of China's higher education policy change at the start of the COVID-19 epidemic (2020) and a comparison of various educational models are the main goals of this study (mainly online and offline). The researcher collected 138 questionnaires via the internet from students at all levels of higher education across China, and this data was collated and analysed. The researcher found that participants were subjectively more likely to believe that COVID-19 was detrimental to their learning. Also, specific similarities and differences between online and offline courses were summarised from the participants' descriptions. In terms of correlation, the study found a positive correlation between students' equipment and adaptability. Regarding the education policy section, the study found a clear policy shift in Chinese universities in 2020, mainly in the first half of the year when most universities implemented a policy of conducting all online courses, while in the second half of the year the opposite was true, with most universities changing back to all on-campus learning.

Keywords: COVID-19, policy, online learning, higher education

1. Introduction

The World Health Organization first declared a worldwide pandemic after a novel virus (SARS-CoV-2) and the sickness it produced (COVID-19) spread quickly around the world. COVID-19 has had a huge impact on a wide range of industries, and this study will focus on the education sector, working to analyse the education policies of Chinese universities under the epidemic and its impact on student learning and its causes [1].

The context of this study is primarily Chinese universities, and the study will focus on the Chinese university student population. The Chinese university student population is characterised by a wide range of student origins, mobility, and these characteristics dictate that online teaching is appropriate during COVID-19. In the first half of 2020, China's education policy has allowed the vast majority of HE students to experience online learning. With the exception of some universities in low-risk areas that have adopted a combination of online and offline teaching arrangements, most other universities have taken a full semester or more of online courses. The researcher collected 138 valid online questionnaires from groups of university students from all parts of China and all grades. The data from the questionnaires provides insight into the educational policies of universities and the impact on students.

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The main research questions of this paper are: firstly, to explore the educational policies of Chinese universities in the early years of COVID-19; and secondly, to compare the similarities and differences between the traditional and new educational models in terms of students' perceptions. The main content will be divided into two parts. The first section will summarize the pertinent literature on higher education policies and student learning during COVID-19; the second section will analyze higher education policies and student learning during COVID-19 in China, taking into consideration the literature review and research findings.

2. Literature Review

COVID-19 is a special event that combines immediacy, specificity, and topicality, so the current research on this special event is limited in all fields. In particular, this study focuses on the two main subjects of education policy and university students, and the literature that fits perfectly with it is relatively scarce. In the following, literature that is relevant to this research topic and that can be drawn upon will be selected for discussion and study.

However, since the occurrence of COVID-19 in 2020, study abroad policies in some developed Western countries have become increasingly tightened and repeated, making study abroad, especially in the US, markedly uncertain [2]. Zhou's study analyses the educational policy adjustments made by Western countries in response to COVID-19, making Chinese students' study abroad more uncertain, and suggests how the Chinese government and students can respond to these changes. This literature helps this study focus on the changes in education policies during COVID and how students learn in this particular context.

Even though the 'conventional' (face-to-face) higher education system was unprepared for the blockade (e.g., there was no planning or preparation for a large-scale change to online teaching and learning), it responded extraordinarily quickly and effectively by switching to online teaching and learning [3]. Cesco's study addresses the digital transformation by concentrating on the pertinent elements that should be taken into account in the discussion: broadband network infrastructure and hardware devices; e-learning software; the organization of teaching and learning activities; pedagogical issues; diversity and inclusion; and a number of other issues. They came to the conclusion that the COVID-19 pandemic would permanently alter higher education, perhaps for the better. This is what motivated the decision to concentrate this study's attention on online teaching and learning in higher education. The COVID-19 pandemic, which led to a global economic slowdown and had a significant influence on the higher education sector, is mentioned by Rashid & Yadav [4]. Face-to-face classes were replaced by online learning platforms after campuses were abruptly closed as a social isolation strategy to stop community transmission. They contend that e-learning and virtual education could play a crucial role in the post-pandemic higher education system. To assure student learning outcomes and standards of educational quality, universities and higher education institutions need to develop post-pandemic teaching and research programs. Researchers have studied how teaching and learning have changed in HE during the early years of COVID-19 and have taken note of the developments in higher education during this time.

The first two months of the COVID-19 pandemic in Greece were tracked in the study of Karalis & Raikou [5], which looked at the immediate effects of crisis situations on university education. In order to better understand how students felt about the abrupt switch to online learning, which was framed in two academic courses during the pandemic, the researchers looked at the instance of the Education Department of the University of Patras. They created a questionnaire with both open-ended and closed-ended questions, and 103 departmental students responded to it. The questions centered on the students' motivation to participate in the educational program, which was sparked by their emotions, and whether or not these factors helped or hindered the learning process. The objective was to examine the takeaways from this experience and how they might affect pedagogy in higher

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education, not to compare two different teaching styles (online and face-to-face). The findings point to a particular emphasis on teaching and learning in higher education, and as a result, the need for the development of university pedagogy is beginning to emerge. Blockades' effects on teaching and learning processes were researched by Arora & Srinivasan [6]. They wanted to determine the acceptance rate of virtual classrooms as well as the advantages, difficulties, and deterrents to using them. 341 teachers from higher education institutions in the Ghaziabad region participated in the survey and provided replies. They discovered that, out of all the reasons given, lack of awareness was the most significant. This was followed by lack of interest and uncertainty regarding the value of virtual classrooms. Virtual classrooms have been criticized for having low attendance rates, a lack of human connection, and poor connectivity. The report also offers solutions for dealing with the problems, drawbacks, and objections to implementing virtual classrooms mentioned above. Both qualitative and quantitative studies have been conducted as part of the research on COVID-19 early higher education. The methodological framework of this study was informed by the researchers' use of a variety of research techniques, including the aforementioned questionnaires and interviews.

COVID-19 was a sudden and new event, but it has already attracted a great deal of academic attention, and a number of discussions and studies have emerged on the various sectors of COVID's early years. The existing literature on higher education in the early days of COVID provides a good literature base for this study. Through reading the relevant literature, the researcher found that China, as the first country to be hit by COVID-19, quickly adapted its model of higher education, but there are still some gaps in the research in this area. Therefore, after a period of implementation of the new higher education teaching model during COVID-19, the researcher decided to compare and contrast the similarities and differences between traditional teaching and e-learning and try to analyse the causes, starting from Chinese university policies and the learning experiences of university students.

3. Methods

A questionnaire is a set of inquiries made to a subject in order to gather statistically significant data [7]. Because of its applicability, questionnaires were chosen as the main method of data collection for this study. Questionnaires allow for the collection of large amounts of statistical information, which facilitates the development of quantitative research, and they are easier to conduct online than other methods due to the limitations of COVID-19.

4. Finding and Discussion

Based on the literature and the facts of the epidemic, the researcher designed a questionnaire on the learning situation of Chinese university students during COVID-19 and obtained 138 valid responses from the Internet from students of different levels of higher education in different regions of China.

4.1. Basic Information

The online questionnaire was administered after informing the participants of the study and obtaining their consent, followed by some basic information about the participants, mainly their location and grade level. Figures 1 (generated by the Wenjuanxing app) and 2 illustrate these two pieces of information.

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Figure 1: Location.

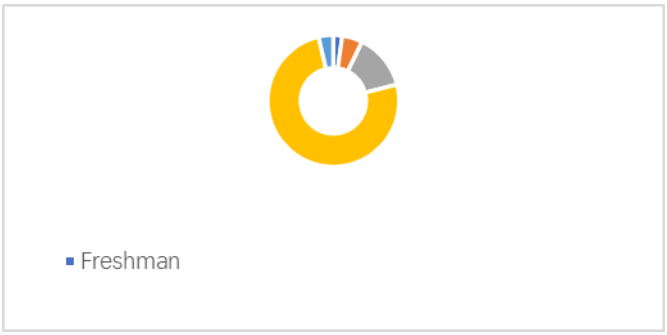

Figure 2: Grade.

As can be seen from the two figures, the location of the participants covers many regions of China, and the grade levels encompass most stages of higher education. However, it is worth noting that most of the participants' regions are concentrated in Hunan Province, and their grade levels are concentrated in their senior year. Convenience sampling is a non-probability or non-random sampling technique in which the researcher selects participants from the target population based on their ability to meet a set of practical requirements, such as proximity to the research site, availability during the required time frame, or willingness to participate [8]. The sampling of questionnaire participants, which mainly adhered to the principle of convenience sampling, and the promotion of the questionnaire mainly with the help of social media and university student groups, may have resulted in a huge number of participants coming from the researcher's interpersonal circle, so that the location and grade level appeared to be uneven.

4.2. Subjective Perceptions

There are three questions in the questionnaire that relate to the subjective feelings of the participants, namely question 3, question 8 and question 9, and the data will be collated into the following three tables.

Table 1: Question 3: How do you feel about your learning during COVID-19? (Single choice).

Options	Number	Proportion
COVID-19 is good for learning	23	16.67%
COVID-19 is not conducive to learning	75	54.35%
No significant differences	40	28.99%

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The table shows participants' subjective perceptions of learning during COVID-19. As a percentage, more than half of the participants felt that COVID-19 had a negative impact on learning, another 30% felt that the COVID-19 team had an insignificant impact on learning, and around 17% felt that COVID-19 was positive for learning. The data suggests that COVID-19 is more likely to be detrimental to learning.

Table 2: Question 8: What do you think are the differences between online and traditional courses? (Fill in the blanks).

Answers	Number	Proportion
Lack of supervision and low self-awareness in online courses	43	39.81%
Online courses are more convenient (flexibility of time and place, replay function)	23	21.30%
Traditional courses facilitate communication	19	17.59%
Traditional courses have a learning atmosphere	10	9.26%
No significant difference	5	4.63%
Exam format is different	4	3.70%
Traditional courses have equipment, resources	3	2.78%
Some teachers slack on online courses	1	0.93%

This was an open-ended question, and the researcher summarised similar responses, ranking them in descending order of proportion. It can be seen that the differences most often mentioned by participants were the differences in supervision, flexibility, and teacher-student communication between traditional and online courses. In the second tier, there were the differences in learning atmosphere and examination methods, and the fact that some students did not consider the differences to be significant. Mentioned by individual participants were the differences in equipment resources and teacher attitudes.

Among the differences between the two, many disadvantages of online teaching emerged. Because the student body is less self-motivated (from the participants' self-assessment), the weak supervision mechanism online allows many students to have poor learning situations. In addition, many participants felt that online courses had a negative impact on teacher-student and student-student communication, such as internet delays that hindered communication, and recorded classes that reduced communication. This is similar to the findings of Arora & Srinivasan in the literature review [6]. An essential element of teaching and learning is the classroom environment, which fosters the development of positive relationships between teachers and students as well as their motivation and self-confidence [9]. At the same time, some participants felt that traditional classrooms have a better learning atmosphere and may negatively affect the atmosphere created in online courses due to hindered communication. A small number of participants also felt that online courses lacked some of the equipment and resources that schools, as professional teaching venues, objectively have some of the better equipment and resources. As well, one participant mentioned that teachers may also slack off because of online teaching, but this is perhaps a relatively rare occurrence.

There were also some differences regarding the advantages of online courses as well as neutral descriptions. Students have flexibility, providing more options for interaction and engagement [10]. A number of participants mentioned the flexibility of online courses, such as being flexible in terms of time and place and having the ability to play back. These advantages are the reasons why online courses were adopted during COVID-19. There were also some participants who did not see any significant differences between the two courses, as well as some who noted changes in the way the examinations were conducted, but did not make any subjective comments.

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Table 3: Question 9: How comfortable are you with online learning? (Single choice).

Options	Number	Proportion
Adapt quickly	63	45.65%
Gradually adapt	71	51.45%
Can't adapt	4	2.9%

This question was a survey about participants' subjective adaptation to the change from traditional to offline courses. The data revealed that the vast majority of participants were able to adapt to the online courses, with about half of them adapting quickly, and the other half may have had difficulties with online learning at first, but adapted slowly over the course of their studies. However, there were still a few participants who were unable to adapt to the online courses.

4.3. Relevance Analysis

Experienced data analysts are aware that gathering, combining, and transforming the data is frequently more labor-intensive than specifying the analysis or report itself in order to produce a successful analysis or useful report [11]. SPSS has robust capabilities to execute and automate these operations. To investigate the correlation of factors affecting participants' learning, the researcher conducted a data analysis of the correlations with the help of SPSS software. The researcher conducted data analysis on five potentially relevant questions in the questionnaire, which were：

Question2: What is your school's curriculum model for the first half of 2020?
Question3: How do you think COVID-19 has impacted on learning?
Question4: How did your grades change during COVID-19?
Question9: How well did you adapt to online learning?
Question10: What is the condition of your hardware and equipment?

Table 4: Relevance.

Item	Mean	Standard deviation	Q2	Q3	Q4	Q9	Q10
Q2	1.33	0.64	1				
Q3	2.12	0.67	0.09	1			
Q4	2.30	0.86	-0.04	0.32**	1		
Q9	1.57	0.55	-0.03	0.12	0.06	1	
Q10	1.52	0.54	0.13	0.08	0.05	0.41**	1
* p<0.05 ** p<0.01							

According to the SPSS software analysis, "p" indicates the significance of the data correlation, where "p" < 0.01 for question 3 and question 4, and question 9 and question 10. Those 2 groups are likely to have relevance. The numbers in the table indicate the correlation coefficient, usually a value greater than 0.4 indicates a strong correlation, i.e., question 9 and question 10 are likely to be closely correlated.

Table 5: Question 10: What is the condition of your hardware and equipment? (Single choice).

Options	Number	Proportion
Very well matched online courses	69	50%
Fairly well matched online courses	66	47.83%
Unable to match online courses	3	2．17%

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Comparing the data in Table 3 and Table 5, there is a high degree of similarity between the two. The number of participants who "can adapt to online courses very quickly" and "hardware can match online courses very well" are both nearly half; about half of the participants chose the options "gradually adapt to online courses" and "the hardware is mostly compatible with online courses"; and a few participants "cannot adapt to online courses" and "the hardware is not compatible with online courses". This may indicate that there may be a positive correlation between the quality of hardware facilities and the ability to adapt to online courses.

4.4. Education Policy

Before conducting the survey on education policies in Chinese universities in 2020, the researcher tested the participants' knowledge of the policies.

Table 6: Question 6: Did you pay attention to education policies during the epidemic? (Single choice).

Options	Number	Proportion
Yes, very concerned.	45	32.61%
Yes, heard of it.	71	51.45%
No.	22	15.94%

From the data, it is clear that most of the participants were aware of the education policy, which helped to improve the reliability of the subsequent policy survey. Below are the data on curriculum policies for the first and second halves of 2020 at the participants' universities.

Table 7: Question 2: What is the mode of study in your school in the first half of 2020? (Single choice).

Options	Number	Proportion
All online courses	102	73.91%
Online courses & offline courses	29	21.01%
All offline courses	4	2.9%

Table 8: Question 6: What is the mode of study in your school in the second half of 2020? (Single choice).

Options	Number	Proportion
All online courses	12	8.7%
Online courses & offline courses	28	20.29%
All offline courses	98	71.01%

It can be seen that although it is the same year of policy, there are nearly opposite differences. Most universities adopted a fully online mode of delivery in the first half of 2020, while the second half changed to mostly becoming fully on-campus. In order to support the conclusion of the epidemic, which is that it could be effectively controlled soon, Wang et al study's estimated the trend of the epidemic in China after the implementation of strict control measures and predicted that the number of infections would decline by the end of February 2020 [12]. It can be speculated that the epidemic was controlled in China in the second half of 2020, which may have led to a change in policy.

5. Conclusion

In this study, questionnaires were collected to obtain the study and school policies of 138 students from Chinese universities during the COVID-19 pandemic. The study disaggregates and analyses this

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data to ultimately derive policy shifts in Chinese universities during the early years of COVID-19, as well as examining the differences between traditional learning models and online learning from the students' perspective.

This study found that, from a subjective perspective, most Chinese university students could adapt to online learning, but they were more likely to find COVID-19 detrimental to their learning. Participants also provided many specific differences between traditional and online courses, mostly about the disadvantages of online courses, such as lack of supervision and inefficient communication; but also mentioned the advantages of online courses being flexible and replayable. In order to pinpoint some of the causes of the learning phenomenon, this study makes an effort to analyze the correlation of the data. It was found that there was a positive correlation between students' devices and adaptability. Most of the students had devices that could support online courses, which might be one of the reasons why most of them could adapt to online classes, but individual students did not have devices that could support online classes, which might also be the reason why some students could not adapt to online classes. In the education policy section, the study found that Chinese universities underwent a significant policy shift in 2020, mainly in the first half of the year when most universities implemented a policy of conducting all online courses, while the second half of the year saw the opposite, with most universities changing back to all on-campus learning. Based on the relevant literature, the researcher speculates that this may be related to the fact that the epidemic in China was brought under control.

One concern about the findings was that the sampling used in this study may not be universal enough. As mentioned earlier this study was based primarily on the principle of convenience, so a relatively large proportion of participants were senior students from Hunan Province. This may have made the data in this paper biased, and thus the generalisability was reduced. The shift in education policy can be seen in the uncertainty of the pandemic, so education policy is likely to change more frequently than usual, so blended learning may become the norm. Future research could focus more on the development of blended learning in higher education during a pandemic.

This study takes the learning situation of Chinese university students at the beginning of COVID-19 as the research content, hoping to explore the rationality and shortcomings of education policies from the real feelings of this group of Chinese university students during the special period, and to provide a reference for the subsequent research on the education policy system and university education during COVID-19.

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