

Analysis on the Influence of the Epidemic on the Education in China

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Abstract—The sudden outbreak of the novel corona virus, Covid-19, brought a lot of loss to China and the Chinese people. To contain the epidemic, people had to stay where they were. They could not go back to work or to school. Some dormitories in the universities were requisitioned temporarily as ward for Covid-19-infectious patient. The offline courses were due many reasons infeasible, what brought unexpected changes to education. With the analysis on the latest news about policies and relevant data, this paper focuses on the impact of the epidemic caused by Covid-19 on the education in China. In order to make the influence clearly and comprehensive, the education in China is divided into varies of parts, namely, compulsory education, extracurricular education and higher education, which further divided into study abroad and study inland. And the influence concentrates on the teaching and learning-effect, the transformation of the teaching forms, the employment of the students and the enrollment of the schools. The analysis result shows that the compulsory education is the less affected than higher education, because the students who are taking compulsory education do not face the employment pressure. Although online courses are lack of supervision, so that the learning effect of the students with poor self-control will get worse and the gap between good students and bad students will widen, after they return to school and take the normal offline courses, the “Matthew Effect” will be eliminated. In comparison, the employment and enrollment stress that the students and universities are suffering from will last for a long time. Besides, the extracurricular education also encounter irreversible loss, because companies that incapable to open online courses are forced to close. In addition, problems of the online courses platforms are found through the research. Professional teaching platforms are still a blank and urged to be developed. In a word, despite all the impact on the Chinese education, education sector is still an optimistic area because of the hope and potential brought and presented by the online education.

Keywords—Covid-19 epidemic; Chinese education; online courses; offline courses; teaching platform

I. INTRODUCTION

At the beginning of 2020, the epidemic caused by Covid-19 broke out in China. Because of the strong infectiousness, the novel corona virus spread out initially at an incredible high speed, thus leading to the strict epidemic control inside the Chinese mainland. At that time, Chinese people were enjoying their Spring Festival holiday. Many people had been already away from work, schools and universities. Due to the transport restrictions and lockdown policies, many people could not go back to school and work in time, what brought great challenges for the Chinese

people. They had to deviate from the life they were used to. Among them, the students and teachers are one of the most influenced groups. Therefore, they had to adapted to learning or teaching online because the campus was locked down. Moreover, during the whole February, the reopen of the schools were not in sight. What is more, the college entrance examination, which is considered to be a turning point of the destiny for Chinese, was even announced to be postponed for a month. From the series of changes in education, people can see the impact of the epidemic on the educational situation in China. Hence, this paper will investigate in detail, in which scale and aspects the education in China was affected by the Covid-19. Besides, several suggestions will be put forward from the perspective of avoiding loss that attributed to any epidemics or other disasters in the future. The research method employed is mainly quantitative research. The authors will elaborate the influence of Covid-19 on the education through analysis on the current situation, and the reference of the influence of SARS in 2013. Since the authors themselves are working in the education sector, the empirical research will be included as well. At last, this paper aims to provide the peers with information and ideas of problems and solutions of the education under the pressure of epidemics, hoping that we, as members in the education sector, can learn from our present and make sufficient preparation for the future.

II. IMPACT ON PRIMARY AND SECONDARY EDUCATION

A. Impact on learning

The epidemic led to the total suspension of classes in primary and secondary schools. Under the appeal of Ministry of Education, "suspended class, ongoing learning", the online courses launched by the school are in full swing. However, whether this form of study can ensure the learning result is still in doubt. First of all, the quality of teaching online differs from that offline. For one thing, the online courses rely on the online teaching platform and the network system. Once the network or the platform breaks down, the courses will be interrupted. For another, the teachers are used to the traditional way of teaching. Online teaching is a new form for many teachers. Therefore, many teachers cannot get familiar with the online platform in such limited time. Thus, there is no way to ensure that the online teaching can go on as smoothly as the traditional face-to-face teaching form. Secondly, the learning efficiency of the students remains a problem. This problem is particularly obvious for the primary and secondary school groups, because most of them have poor self-management constraints and self-driving. Since the online teaching cannot provide the teachers with as good views as teaching in a classroom, the supervision of the learning of each

student are weakened than before. The students can leave the computer amid the class or do other things like play games, watch dramas and so on. From one of the biggest social networks in China, Weibo, there are a lot of showing-off of how to skip class without the notice of the teachers. In addition, the inspection of homework and the invigilation are also the pain points of online teaching. Because of the absence of teachers, the gap between students with good learning manners and bad manners will enlarge. Hence, after the reopen of schools, the "Matthew effect" will form among the students. During the initial period of resumption, students with good grades will show better performance than before, while students with poor grades will get even lower grades than in the former semesters. However, this difference should gradually shrink to the normal scale, as the teaching activities are going back on track.

B. Impact on the study of next semester or stage

In China, the spring semester starts normally in February and ends in July, lasting about 5 months. Affected by the epidemic, at the beginning of March, Hong Kong issued a notice of "one year of repetition for all primary school students in Hong Kong". According to the latest news from Xinhua News Agency, starting from mid-April, the schools will be fully reopened under strict control [1]. Usually, half of the semester and teaching activities are passed in April. Whereas, in this year due to the epidemic, even if the class is resumed, it is impossible to maintain the same rhythm as previous. Schools are likely to extend the semester or make up classes through summer vacation, in order to guarantee that students can catch up with the pace of learning in the following semester. Furthermore, according to the latest news, the college entrance examination were announced to be postponed by a month to July 7 and 8 [2]. Whether the postponed date can be a remedy for the time wasted amid the epidemic remains suspicious. Anyway, the change in learning and teaching activities due to the corona virus tend to result in a generally low score this year or an increase in the number of students, who repeat the last year of high school, when referring to the situation in 2013 after SARS.

III. IMPACT ON FURTHER EDUCATION

A. Employment issues

In China, the campus recruitment is a major way to solve the employment problem. The campus recruitment is divided into autumn recruitment and spring recruitment. The autumn recruitment generally is aimed at students who have no continuing education plans and want to work directly after graduate. The spring recruitment is aimed at some outstanding students who need to be employed after losing the postgraduate entrance examination.

For prospective graduates in 2020, the impact of the epidemic on employment is unquestionable. For students

who have participated in the autumn recruitment, whether they can graduate as scheduled becomes an important factor in deciding whether they can successfully enter the new job. Meanwhile, domestic and large enterprises are more or less affected by the epidemic. So whether the positions the students already applied for will be canceled due to the impact of the epidemic is also uncertain.

For students waiting for the spring recruitment, this period of time is also very difficult. The spring recruitment was canceled due to the Covid-19. Whether it will be reorganized after the full reopen of schools depends on too many unknown factors. Most of the students waiting for the spring recruitment either participate in the postgraduate entrance examination or take the public examination. Nevertheless, due to the epidemic, the retest time is not determined. The influence on the entire year's college and employment plans will be lasting. Under such circumstances, China may approach the biggest unemployment rate of graduates in 20 years.

B. Impact on studying abroad

According to news from the Ministry of Education, there are about 1.6 million overseas Chinese students, and currently there are still about 1.4 million abroad [3]. Also, the interest in studying abroad of Chinese keeps increasing with 413.9 thousand Chinese studying abroad in 2013 and 662.1 thousand in 2018 [4]. In addition, the diversity in the selection of the country for study is a trend [5]. Hence, the impact of the epidemic on the overseas study cannot be overlooked.

First of all, the global outbreak of the epidemic may lead to the postponement of the enrollment. That will be a dilemma for the students who have already acquired the admission. They should decide whether to wait for the reopen of the school abroad, which may still in the far future, because in many countries, such as Italy, U.S., and U.K., the number of diagnosed person are still rising at a high speed.

Besides, the government-sponsored overseas education is also greatly affected, including joint training students and visiting scholars. The new students in the plan cannot be sent abroad because of the outbreak of overseas epidemics. And they face the problem of the placement in China.

In addition, students who have been abroad are facing the delay of graduation and the problems in employment. Due to the closure of campus and dormitories in many countries like U.S., the foreign students are forced to go back home. However, many flights are canceled to block the spread of the corona virus. These students are also facing the problem of how to life. Other students who returned to China to celebrate the Chinese New Year cannot go back to school and are forced to suspend their study. As shown in fig. 1, many countries choose to suspend or partly suspend classes to block the spread of Covid-19. The study of the overseas Chinese students is interrupted. Whether they can finish their study as planned remains unknown.



Figure 1. Class-suspensions in countries with the most Chinese students [6].

In summary, the delay of graduation and employment is inevitable. The overseas students who have already found a job, like the domestic students, also face the risk of the delayed entry to the work or the cancellation of their positions.

IV. THE IMPACT ON POSTGRADUATE EDUCATION INLAND

Despite the increasing interest in studying abroad, due to the impact of the epidemic, some families begin to look at the overseas study critically. They begin to pay attention to issues other than learning itself, such as social security, cultural issues, and decide to further study in China. Accompanied by the employment pressure mentioned above, the prospective graduates will probably participate in the postgraduate admission examination, resulting in the increasing competitive pressure in domestic graduate admissions. The number of participants in the postgraduate entrance has exceeded 3.41 million in 2020 [7]. The epidemic undoubtedly makes the situation worse next year.

Except for the students, the Ministry of Education and colleges are under great pressure. For one thing, they are facing challenges both in enrollment for the increasing number of students, and organization of examinations for the postgraduate examinations are always in form of written tests in the certain classroom, and there is no online test before. For another, how to alleviate the unemployment problem will also become one of the focuses that the government and universities need to pay close attention to.

V. IMPACT ON THE EDUCATION AND TRAINING SECTORS

A. Online and offline education

The epidemic situation is both an opportunity and a challenge for China's large and small education and training institutions. It can be seen from fig. 2 that over 70% educational institutions choose to suspend classes. 30% institutions are preparing to change or is changing their teaching form, from offline to online. However, according to the epidemic situation, the impact on online education and offline education has great difference.

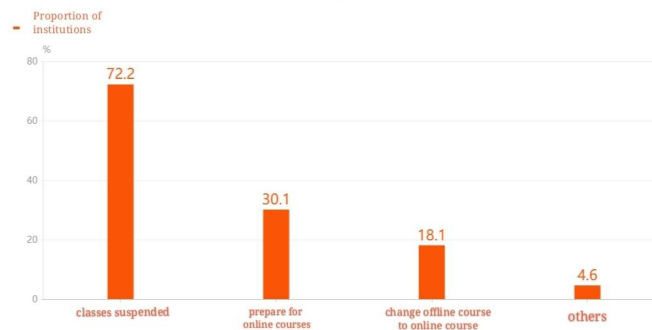


Figure 2. Business situation of Chinese educational institutions during the 2020 epidemic (unit: %) [8].

Under the influence of the epidemic, online education has become the first choice for students after-school tutoring. Combined with the call for “non-stop learning”, most parents purchase online tutoring courses for their children to enrich

their study time at home. According to the report from People's Daily online, the number in search for the keyword “online education” via the search engine Baidu soared from 300 on Jan. 17 to 5000 on Feb. 10 [9], indicating a huge demand for online

courses. Besides, according to Sina Finance News, In terms of online education stocks in the A-share market, the market opened on the first day of the year of the rat (closed from February 3 to February 10), the stock price of Fangzhi Technology (300235-CN)), which supplies teaching materials and software for teachers and students of elementary and middle schools, increased by 77.24% cumulatively; the stock price of Shiji Tianhong (300654-CN), which provides online platforms and software tools for teachers and students of elementary and middle schools, increased by 77.17%. The cumulative increase in the online education sector of the A-share market was 10.76% [10]. And the stock price in the online education sectors in the Hong Kong and U.S. stock market also increased[10]. Therefore, the online education also attracted many investment.

In addition, in the early days of the outbreak, NetEase Cloud Classroom, one of China's largest online education platforms, announced the free access to NetEase courses to elementary and middle school students from Hubei until the subsided of the epidemic. Netease's actions became extremely conspicuous in the wave of transporting and donating goods from all over the country to Wuhan for supporting the people there contain the epidemic. And they have been a hot topic on the Internet. Their social responsibility were highly praised by the public. What is more, it allows the online education back to the sight of the public again. All these trend manifest that the online education has huge potential.

Previously, most of the training institutions offer courses both online and offline. Because of the epidemic situation, the surging demand for online courses can somehow make up the losses caused by the closure of offline courses. Compares to the boom of online courses, the offline education confront a great predicament. Although some small offline training institutions are forced to switch to online mode to survive the difficult period, a large number of them have to shut down due to the broken capital chain. For example, on February 6, an educational institution that once listed on the New Third Board and had a pre-IPO valuation of more than 1 billion yuan, Brother Company, announced its failure [10]. In the letter to all students, employees, and shareholders of Brother Company, Li Chao, founder of Brother Company, stated that due to the company's cash flow problem, the Beijing campus ceased enrollment and all employees of the campus were severed [10].

However, in the whole, the education and training industry is still one of the most optimistic industries in China, as the online education has already drawn much attention and investment. NetEase Youdao also announced its investment in the K12 educational intelligent hardware platform, decibel factory [6].

B. Development of the intelligent platforms

The development of online courses in a large scale has exposed many shortcomings of live web-casts or online education platforms. On the one hand, the teaching relevant functions, such as the stability of the platform, the presentation of teaching materials, the supervision during the class, have to be improved. On the hand, most of the current

live broadcast platform are made for Internet celebrities to sell products or for the game anchors to air the game playing. Therefore, there are too many functions that are not suitable for the class, like sending virtual gifts to the anchor, or the automatic over-beautification of the anchor's face. All these functions can cause small incidents in the class, which may greatly distribute the students' and teachers' attention, so as to waste a lot of time. Hence, there is an urge need for a professional platform for online courses that can not only realize the interaction between teachers and students, but also enhance the user experience.

Because of this, many intelligent office software were introduced into online education management. Alibaba's APP, Dingding, is even recommended by UNESCO for its powerful functions as one of the softwares for education management during the quarantine. In China, Dingding was once badly rated by a large number of primary and middle school students in the mobile phone software store because of its strict control system (below 3 points, the APP will be removed from the shelves), causing Dingding's measurements for crisis public relations throughout the network. Dingding made a sincere "apology" to the primary and middle school students nationwide, which once became the focus of Weibo and generated hot discussion. This incident also reminds the practitioners of education platforms that they can introduce the merits from other intelligent office or management software to improve their platforms.

VI. CONCLUSION

Although the epidemic in China tends to subside, the impact it has exerted on the education sector is irreversible. Students should face the delay of graduate and unemployment. Also, some of them should make hard decisions of where to go on studying, abroad or domestically. And the practitioners should adapt to a new teaching mode. Besides, the schools should make new plans for next year. However, the epidemic reveals the shortcomings of the current educational situations. For example, despite the booming development of the Internet, only few teaching institutions including schools and universities do not adopt the online teaching form and relevant apps or software are also in shortage. As a result, at the beginning there is short chaos in teaching activities. Tragically, some offline education companies have to stop business or even close. In the future, the education institutions should introduce new technologies in teaching activities and always be prepared for any disasters. Furthermore, the development of professional teaching platforms should be put on the agenda. On the other hand, from the epidemic, the prosperity of online education can be expected, which can be a good job choice for both graduate students and investors.

What is also worth being mentioned is the problem with the online courses for students without computers or the access to the Internet. That have been reported amid the quarantine period. Furthermore, whether the epidemic situation will aggravate the educational inequity in regions with different economic development need to be investigated in detail. Also whether the educational inequality between genders in the poor areas gets more sever due to the novel corona virus is worth being discussed.

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The Covid-19 has caused a great impact on China's education. As practitioners in the education sector, we continue to pay attention to this impact and hope to contribute to China's education. Coincidentally, in early April, we received an invitation from Professor Naveeda Khan of JHU to make a simple statement and summary of the impact on the education in China as part of her upcoming collection of the influence of the epidemic on global education. Under such an opportunity, we wrote this article. We hope that this article will give people an objective understanding of the impact of the novel corona virus on Chinese education.

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