The Impact of Online Teaching on Chinese Secondary School Students and Their Parents
A Case Study in Secondary School S in Quanzhou

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Abstract. In response to the spread of COVID-19 in Quanzhou on 13th March, 2022, a number of schools, including kindergartens, primary schools, junior/senior high schools and universities implemented online teaching. In this context, this study explores the impact of online education on students and their parents in Secondary School S in Quanzhou, Fujian Province, China. Some studies found that online education broke the traditional control model of offline classroom teaching, and that both teachers and students had more autonomy [1]. However, this study shows that online teaching only gives students more autonomy in learning space, but puts more pressure on their long learning time and online tasks submission. The study highlights the impact of online education on students performance and mental health, as well as the impact on parents.

Keywords: COVID-19 Pandemic · Online Teaching · Psychology Effect

1 Introduction

Covid-19, an acronym for Coronavirus Disease 2019, emerged primarily as a viral epidemic in Wuhan, China, in 2019 [2]. Formerly, it was diagnosed as pneumonia of an unrecognized causative agent [3]. Before this epidemic, the outbreak of other coronavirus epidemics were recorded in the last twenty years like SARS-CoV and MERS-CoV [4]. At the end of 2019, Chinese doctors diagnosed that this viral epidemic was caused by a new type of coronavirus known as—Novel Coronavirus [5] and termed as 2019-nCoV (2019 novel coronavirus). In the meeting held on 30th January, 2020, WHO announced the 2019-nCoV outburst as Public Health Emergency of International Concern (PHEIC) [5]. On 13 March, 2022, Quanzhou faced one of the toughest tests of outbreak prevention and control, with a worsening of the indigenous outbreak and the emergence of young children with asymptomatic infections. As a result, the government decided that 20 colleges and universities, 24 technical schools, and all primary, secondary and high schools in Quanzhou should fully convert to online study.

Online education is a challenge for middle school students, teachers and parents. This is especially true for students in Quanzhou who will take the Secondary School Examination (SSE) in their third year, as the marking criteria for the SSE is conducted

Table 1. Interviewer information

N	Gender	Age	Roles
WQM	man	13	Student
WQR	man	13	Student
WXM	woman	13	Student
XLJ	woman	45	Parent
YYY	woman	40	Parent
WGE	man	46	Parent
WGW	man	39	Parent

on a provincial basis. This case study tends to explore the impact of online education on students and parents in Secondary School S in Quanzhou, Fujian Province, China. Participants information is shown in Table 1. The study aims to address the following issues. Firstly, for the students themselves, whether their performance is affected by teaching modes, learning environment, family financial condition, personal learning motivation, self-control, and learning style. In addition to this, whether online study impact their mental health. Secondly, for the parents, due to online education, is there a greater financial and mental burden on them, and does this create more family conflict than with offline teaching.

2 The Impact of Online Teaching

After observation and interviews, the author found that online teaching had some effects on students and parents. S is one of the top schools in Quanzhou, so online education was a compulsory measure during the Quanzhou epidemic. And in order to ensure the students performance, S changed its previous offline teaching schedule and put in place a series of new measures in online teaching. At the same time, however, the results were not satisfactory and caused mental stress for students and parents.

2.1 Effect on Students

Online teaching has had two effects on students. On the one hand, the impact on students performance; on the other hand, the impact on mental health.

2.1.1 The Impact on Students Performance

A variety of factors contribute to the impact of online teaching on student achievement. Objective factors such as distance education and distracting learning environment are inevitable; however, there are also students' subjective factors.

2.1.1.1 Objective Factors

The first and foremost reason is that, compared to offline teaching, "the learner are separate in space and time" [6]. Keegan defines this as distance education [6]. After the interviews, most of the students did suggest that, compared to offline teaching, it was difficult to understand complex problems such as mathematical geometry and biological concepts in online teaching because they could not interact with the teacher in time. There were two main teaching modes at S: firstly, Tencent conferencing (similar to Zoom abroad). During the lecture, the students' microphones were not allowed to be used to prevent noise from disturbing the teacher. With this teaching mode, students could not respond to the teacher's lectures timely, so that most students forgot what questions they had during the lesson and the problems could not be solved in time. In addition to this, some teachers recorded their lectures in advance. This was one of the most annoying teaching ways that most students reported. This was because students could not feel any interaction with the teacher during the lesson, which made it difficult for them to absorb the knowledge in the video. In one of the interviews, WQM said that the recorded lecture video was like a boring commercial video for them. In both year-end-exams and internal-exam courses, students' academic performances are likely to decline because of less contact and consultation with teachers in learning [7].

The second objective factor was the learning environment at home. In school, students have a more serious atmosphere in lessons and this atmosphere is beneficial for students to concentrate on their studies. The school will regulate students' learning behaviors to ensure their learning. Conversely, students are rightly in a more relaxed mode when studying at home. Interviews and observations revealed that most students were disturbed during their online study at home, causing them to be distracted. For example, the family pet running into the room, parents calling them for help or a snack and other similar things. This learning environment causes students to have less concentration throughout the learning process. In addition to this, some students do not complete their studies tasks in this environment without the supervision of their teachers. Interviews revealed that some children signed in on the learning software and then went to sleep or played mobile games instead of listening to the lectures; some children uploaded homework that they did not complete by themselves, but saved pictures of other people's homework, edited the pictures and then became their own homework upload photos. Over time, they become more and more unable to understand the content of the lessons, and become more reluctant to attend classes and complete their homework.

On top of that, the changes to the timetable and learning format are too onerous. After interviews with participants, the researcher found that the schedule at School S had changed a lot compared to offline teaching, with more class time and less break time. In particular, the duration of the main lessons (i.e. Chinese, Maths and English) had been extended from 45 min to two hours, which made it difficult for students in their adolescent years to concentrate on the whole lesson. Besides, with the use of an app called "Ding Ding", students need to stare at their computers, tablets or phones during learning to get reminders such as, assigning and handing in homework. This is a distracting way of setting assignments as students need to keep an eye on their electronic devices to prevent them from missing important information.

Finally, students' family economic condition is also an important objective factor affecting students performance. With students now experiencing homeschooling during this COVID-19 pandemic, family financial condition is not uniform [8]. There are students from well-off families who have a comfortable study environment (e.g. a study room for themselves so that they are not disturbed during their studies); well Internet access, and advanced and adequate study equipment (e.g. printers, computers, tablets and other electronic devices). However, there are students from less privileged families, living in remote areas, who even need to consider their Internet access. Students who have adequate learning facilities are better able to listen to online courses and complete assignments and receive feedback from teachers in a timely manner. The opposite is true for less well-off families.

2.1.1.2 Subjective Factors

Students' motivation and self-control are two important subjective factors. The innately motivated learners are relatively unaffected in their learning as they need minimum supervision, while the vulnerable students who are weak in learning face difficulties [8]. The author has observed that most children have difficulty taking the initiative in online learning and need to be reminded by their parents or teachers. These children are less successful than those who can take the initiative to learn. Therefore, students who are able to learn actively can quickly surpass those who are gifted. Some students even use their learning devices (computers, tablets and mobile phones) to play games and watch videos instead of studying during online teaching, and their academic performance drops dramatically in the end due to less self-control.

Another subjective factor is the student's adaptive ability. Some students are able to adapt quickly to the pace and learning style of online classes, while others are not. So this ability also has an impact on students performance. For example, some students are able to quickly develop their learning objectives and extra-curricular content for the period based on the changed timetable and lesson pattern, while others are unable to master even the in-class learning for various reasons.

2.1.2 Psychological Impact on Students

Most students suffer from different types of psychological aspects during their online classes.

Some students feel more stressed by the heavy academic load. After interviews, students felt that the duration of the online classes was too long and made them feel full of stress because they had difficulty in absorbing the knowledge; additionally, the decline in their grades and the reproach of their parents and teachers were also sources of stress. During the interview with WQM, it was found that he felt a lot of pressure. This is his first year in junior high school and he encountered covid-19 before he had fully adjusted to the difficulty of the junior high school's knowledge. Every day he has to take some time off from his teacher to do nucleic acid, and by the time he returned to class again, he was having difficulty keeping up with the teacher's lessons. On top of this, his parents supervised him every day, reminding him of the different study tasks he had to complete, and it was difficult for him to allocate his time. At the same time, the drop in his grades hit him hard. He studied hard every day, and the online courses left

him no time to exercise or relax compared to the offline courses, but his exam results got worse one after another. The reminders from his teachers and the scolding from his parents left him exhausted and unsure of what to do right.

Some students became anxious and they even started to worry about their future. Also the discomfort with online classes also contributes to their irritation. Finally, the isolation from their peers prevents them from expressing their emotions with their best friends, thus keeping the negativity piling up. In an interview with WXM, she said she was worried about her ability to be a good junior high school's student and get into a top high school. She is a very sensitive child and needs reassurance and encouragement from her peers when she encounters problems. During her isolation from her peers, she encounters more academic difficulties than ever before, but she is unable to solve them and has no access to peer reassurance. Gradually, She was unable to focus on the content of the lessons and was constantly focused on the mode of instruction that was making her uncomfortable, which makes her increasingly irritable and unstable and does not help her online learning.

2.2   Effect on Parents

The impact of online education on parents came from two main areas: financial and psychological.

The first aspect was that it had some impact on parental economics. During the interviews with several parents, including XLJ, WGE, YYY and WGW, it was found that they all had large financial expenses because of the online classes during the epidemic period. Firstly, they all spent more on electronic products for their children. One of them, XLJ, had two children and she bought laptops for both of them. Meanwhile, the school required each child to have three cameras at different angles in order to monitor whether the child was reading carefully. So XLJ also bought six cameras in total. This was a large amount of money. To be honest, this model of teaching puts parents in a difficult position and puts pressure on them. Not all parents can afford to buy top of the range electronic equipment for all their children, nor can they afford to have a dedicated room for each child to study in, so this model is a hidden financial climb. On top of this, the school's requirements are not reasonable enough, and these expensive electronic devices can only be used exclusively for the period of the online lessons, and when the offline lessons resume, they may be left unused.

The second aspect was the psychological impact on parents. Most parents were concerned about their children's abilities to get into a key high school because children's grades were slipping during online learning. They also had more arguments with their children because of their strict supervision on children's studies. All these were sources of mental stress for them. Some parents are constantly on edge, even more worried than their children about their academic performance, and often have emotional breakdowns. Most parents believe that their children tend to get distracted during their online studies and that this then leads to academic decline. They take steps to monitor their children's desks, stay in their rooms to monitor their children during class, and don't give their children time to relax after class because they are afraid that other children will surpass them. Over time, the child, who is constantly oppressed and restrained, breaks out into argument after argument with them, destroying their family harmony. During YYY's interview,

she found out that her child was either sleeping or playing games with classmates every day during the online classes, and at one point she had an emotional breakdown and had a violent argument with her child. However, during the in-depth discussion, I found out that her child's study habits were not caused by the online classes, but by the fact that they had been developed since childhood. When her son was in primary school, she spoiled her child so much that she did all his homework instead of him because YYY felt that the content of primary school studies was not important. Over time, her son did not develop good study habits and by the time he reached junior high school he also felt that studying was not important, but by then it was difficult to change.

3   Conclusion

As of July 2020, 98.6% of learners worldwide were affected by the pandemic, representing 1.725 billion children and youth, from pre-primary to higher education, in 200 countries [9].

This study focused on the impact of online classes on S secondary school students and their parents during the Quanzhou outbreak from 13 March 2022 to April 2022. On the one hand, online learning affected students performance to a certain extent due to the factors such as teaching modes, learning environment, family financial condition, students' motivation to learn and self-control, and student's own adaptability; in addition to this, online teaching also caused students to feel stressed and anxious sometimes. On the other hand, online teaching placed a financial and psychological burden on parents. This study provides insights for future online study. The applicability of these impacts in other schools, however, still needs to be explored further.

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