

Research Article

Teachers' Experiences of Keeping Special Education Students Informed of the COVID-19 Pandemic: A Qualitative Study

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In times of such public health crisis as the COVID-19, staying well-informed can not only help people get prepared and make wise decisions, but also relieve anxiety. Students with disabilities, however, face great difficulty in keeping up-to-date on the pandemic. Using a qualitative research method, this study explored the experiences and perceived difficulties of special education teachers in trying to keep their students informed amid the COVID-19 pandemic. Semistructured focus group interviews were conducted with a total of 24 teachers from seven special education schools in China. The results showed that teachers adopted various measures to improve students' information access, such as holding weekly class meetings, making use of posters and LED displays, working with families and collaborating with local health institutions. Despite these efforts, teachers reported facing multiple challenges and much remains to be desired. This research highlights the need for a holistic approach to providing information for students with disabilities, one that is tailored to their special needs and that involves other players in addition to teachers.

1. Introduction

The COVID-19 pandemic, which began toward the end of the year 2019, has changed the world in a profound way, exerting a considerable influence on various sectors [1, 2]. Many countries took urgent measures to contain the spread of the coronavirus. Consequently, schools, among many other public places, were closed and then reopened, depending on the severity of the pandemic [3, 4]. To keep schools safe, it is extremely important to keep students well-informed about the pandemic. Whether pandemic-related information can reach students in a timely and easy-to-understand manner may make a huge difference [5]. In this respect, however, there are some particularly vulnerable populations, among which are students from special education schools. Lockdowns, masks, and lack of targeted language services make it hard for students with disabilities to keep up-to-date on the pandemic, which may increase anxiety for them or produce other negative psychological and mental effects [6, 7]. Therefore, teachers in special education schools often have to invent, or rather improvise, some ways to fill the information gap for their students.

Studies about the impact of COVID-19 on special education students mainly concentrate on remote teaching during lockdowns [8–11]. Though there are also attempts to understand information seeking behavior of people with disabilities, the focus so far is mainly on adults and many of those studies were conducted before COVID-19 [12–14]. By interviewing 39 deaf adults, Karras and Rintamaki [14] found that for deaf people, the internet served as an important health information source, but some deaf people did not quite understand many medical terminologies. The result was that they sometimes failed to make informed health decisions [14]. A similar study demonstrated that even the website of such authoritative organization as WHO was not “accessible for all,” which meant some marginalized groups, especially the elderly and those with disabilities, were excluded [15]. Being underinformed is of course worrisome, but it is no less disturbing when there exists too much information, because some information is purposefully misleading and people are at a loss who to trust. Misinformation concerning the COVID-19 travels fast on social media and adds to public panic and vaccine hesitancy [16–18]. The proliferation of misinformation has itself become a virus that needs to be addressed. Or as

Ghebreyesus put it, “we’re not just fighting an epidemic; we’re fighting an infodemic” [19].

Younger students with special education needs, compared with adults, have greater difficulty getting themselves well-informed about the pandemic. For one thing, they have a limited internet access, which is especially true in China, where students’ exposure to the internet is controlled in order to minimize its impact on their academic performance. For another, they have to struggle harder than adults to distinguish scientific messages from misleading ones. Therefore, it is of critical importance to explore how well students with disabilities are informed about the COVID-19 and to determine implications for future work. As part of a larger research that examines how underrepresented people in China, especially those who use nondominant languages (such as foreign languages, minority languages, sign language, braille, and so on), access necessary information during public health emergencies. The present study aims to identify what measures special education teachers in China took to help fulfill students’ information needs during the COVID-19 pandemic. We also explore the challenges confronting these teachers, lessons learned in the process and the support they need most. This kind of research contributes to improving information access for students with disabilities, so that they can stay informed and be better prepared when a public health crisis happens. To this end, the following research questions are designed:

- (a) What specific measures did special education teachers take to keep students informed during the pandemic?
- (b) What difficulties did special education teachers run into while carrying out the task?
- (c) What assistance from other players do special education teachers need to optimize ways of helping students stay well-informed?

2. Materials and Methods

This qualitative study employed semistructured focus group methodology. Focus group interviews have been proved workable in studies about people with disabilities [20, 21]. This approach allows participants to interact and can also give us a chance to get diverse insights about the same problem. This way, we can hope to have a fuller understanding of how teachers in special education schools carry out, perceive and evaluate the task of providing the pandemic-related information for students.

2.1. Participants. When choosing participants, we established the following criteria: (a) having taught students with disabilities for no less than 12 months, in order that they know very well about their own work places; (b) having taken part in the task of informing students of the COVID-19 so that they can talk from real experiences. The number of teachers that finally participated in the research was 24, among whom 14 were women and 10 were men. They came from seven special education schools in Gansu province, northwest China. All seven schools have students with either hearing

disability, sight disability, or intellectual disability. Most of the students have hearing impairment, followed by sight-impaired ones, and those with intellectual disability are small in number. Therefore, students face differing difficulties in accessing information and teachers have to invent varied ways of informing so as to have every students included. During lockdowns, with parents’ help, teaching for most students was conducted remotely via Tencent Meeting (Chinese equivalent of Zoom). For those who could not be reached remotely because of either their disability type or lack of internet access and electronic devices, teachers would “send teaching home,” whereby teachers went to a student’s home to teach him or her.

The teachers were divided into five focus groups, with each group comprised of teachers from different schools. In order to promote the representativeness of the sample, we try to make a diverse group of respondents in terms of age, years of working, the type of students they teach, school level, education attainment, etc. (Table 1). The principals of the schools involved received consent forms and granted ethical approval for their teachers to participate in the research. All the teachers were informed of the voluntary nature of the study and were guaranteed that their responses would be anonymous.

2.2. Data Collection. A total of five focus group interviews were conducted using Tencent Meeting from mid-September to early October 2022. The length of interviews ranged from 40 min to an hour. At the very beginning of each interview, the researchers would give an introduction to the purpose of the study. After that, the participants were asked several open-ended questions that fell into the following three sets: (1) questions about the measures taken by special education teachers to keep students informed of the pandemic, such as “Can you share with us the specific steps you took to have your students well-informed about the ongoing pandemic?”, “Were different action plans developed to meet the diverse needs of students with different disabilities?”, “What did you do to make sure that your students were well-informed during lockdowns?”, “What supports, if any, did you receive in the process?”; (2) questions about the barriers perceived by the teachers, such as “What difficulties, if any, did you meet while performing the task?”; (3) questions about the assistance that the teachers believe will facilitate the task of providing their students with up-to-date information, such as “What supports are still lacking that you believe will promote information access for students with disabilities?”. Throughout the interviews, the teachers were encouraged to exchange or add relevant information. The interviewers would ask follow-up questions where necessary. With the consent of the participants, the interviews were recorded and then transcribed using pseudonyms.

2.3. Data Analysis. We employed the thematic analysis method to analyze the collected data, following the six-phase approach put forward by Braun and Clarke [22]. First, the authors read and reread the transcripts and made notes when necessary so as to get familiar with and obtain a general understanding of the content, before which the transcripts

TABLE 1: Characteristics of respondents.

ID	Sex	Age	Education attainment	Years of teaching	School level
1	Female	40	Undergraduate	14	city
2	Female	36	Undergraduate	12	city
3	Male	50	Junior college	27	city
4	Female	27	Undergraduate	4	city
5	Male	34	Undergraduate	10	county
6	Male	48	Junior college	28	county
7	Female	36	Undergraduate	14	county
8	Male	25	Undergraduate	3	county
9	Female	35	Undergraduate	12	city
10	Female	37	Undergraduate	13	city
11	Female	41	Undergraduate	28	city
12	Male	42	Undergraduate	20	city
13	Male	53	Junior college	33	city
14	Female	27	Postgraduate	2	city
15	Male	29	Undergraduate	5	city
16	Female	49	Junior college	28	county
17	Female	30	Undergraduate	7	county
18	Male	24	Undergraduate	1	county
19	Female	35	Undergraduate	11	county
20	Male	26	Postgraduate	1	city
21	Male	55	Junior college	30	city
22	Female	44	Junior college	20	city
23	Female	28	Undergraduate	4	county
24	Female	30	Undergraduate	8	county

were sent to the participants for checking in order that no misunderstanding arose. Then the authors independently went through the transcripts again to generate initial codes. After that, discussions were held among the authors to group together, compare and reconcile the differences, and overlapping points between the initial codes, which were subsequently collated into three broad themes and several subthemes. Following that, the data related to each theme were identified and relevance of associated data to corresponding themes was assessed. With that, the candidate themes were accordingly modified and a thematic map was developed to make clear relationships between candidate themes. The themes were then defined after the research team held discussions to further refine and determine the core concern of each theme. In defining the themes, collated data were duly referenced to ensure that no important code was left uncovered. Finally, an analysis report was produced.

3. Results and Discussion

It is always vital to stay informed and particularly so amid a public health emergency as disruptive as the COVID-19 [23]. But people have unequal access to information. The inequality in access disproportionately impacts people with disabilities, putting them at a higher risk [24–26]. This study aims to find out the specific measures taken by teachers in special education schools to keep students adequately informed, the barriers they perceived while trying to inform their students, and the supports they need and believe will help. From an analysis of the

data of five focus group interviews involving 24 participants, the following three themes emerged: (1) coping measures by special education teachers, (2) challenges and barriers, and (3) supports and assistance needed. In the remainder of the paper, we will present the results, discuss the rationale behind, and finally draw some implications for future practice and studies.

3.1. Coping Measures. COVID-19 pandemic posed multiple challenges for school at all levels, especially special education schools [27, 28]. Previous studies mostly focused on how special education teachers coped with challenging behavior or carried out online teaching [29]. Few studies that addressed information issues demonstrated that special education teachers felt “abandoned” due to the lack of timely and precise information about the pandemic, a finding confirmed by the present study [21]. All of the seven schools under our study are boarding ones, as is the case with the majority of special education schools in China. That means students spent most of their time within schools. Therefore, at times when schools were not closed, it rested with teachers to keep students informed. Teachers complained about having to devise ways themselves to update students on the pandemic. During the interviews, a most frequently mentioned way of informing students was by holding weekly class meetings, where teachers would, using PowerPoint presentation, update students on the pandemic development in the past week.

In the past, we held class meetings only when we had important pronouncements to make and

explain to our students. Sometimes, weeks intervened between class meetings. But since the COVID-19 outbreak, our school made it a rule to hold class meetings every Monday in order to tell our students the latest development of the pandemic. (Participant 7)

(We have) few options available and holding class meetings is relatively more feasible. We teachers follow the pandemic closely and choose the most relevant information to share with our students at weekly class meetings. (Participant 3)

The frequency of class meetings varied depending on how serious a wave of pandemic was and how far it was from where the schools are located. And when critical developments of the pandemic occurred between weekly class meetings, teachers would set aside some time in each class session of the same day to inform students of the latest, so as to minimize the information lag.

When the local pandemic took a sharp turn for the worse or when there occurred significant changes in local provisions about pandemic prevention, we teachers would set aside some time in the class to inform students of the latest updates, instead of waiting for the Monday class meetings. (Participant 15)

Posters and LED displays have proved effective in informing people about the pandemic [30]. As was reported by several participants, they also turned to posters and LED displays. In many public spaces within campuses, such as canteens, playgrounds, corridors of dormitory and teaching buildings, posters with pictures, and captions were put up to show students the right way of wearing masks, washing hands, using disinfectants, etc. LED displays were mainly about the latest updates of the pandemic.

In response to the pandemic, several LED screens have been installed within our campus. We use the LED displays to show students how to wash hands properly, how to keep social distance, etc. We also play some video clips about the pandemic and when necessary, we add captions to the clips so that students with hearing impairments can benefit as well. (Participant 21)

However, it should be noted that posters are of no help for those with sight impairments.

When vacations or lockdowns came, information issue became all the more important [31]. During lockdowns, when students were forced to stay at home with their parents, teachers expressed that collaborating with families became paramount. They reported providing counseling services, forwarding messages, and establishing communication channels, for example, Wechat groups. These activities are crucial in that parents have relatively little experience informing their children of the COVID-19, since a majority of special

education schools in China are boarding schools, where students live and study throughout a whole semester and return home only when vacations come. Teachers spent a lot of time learning about parental concerns, telling them what information sources to trust, teaching them how to explain some new terms used in news reports relating to the COVID-19.

When schools were closed, we advised parents to regularly tell their children about the pandemic. Also through Wechat groups, we shared with parents some news items and videos that we found important and useful. (Participant 9).

It seemed most parents did not do that (informing students of the pandemic) as regularly as we teachers (did at school). Some parents said they had difficulty explaining some new terms about the pandemic. Sometimes, (we spent) a couple of hours replying to parents' questions. (Participant 3)

Students with disabilities had limited exposure to media coverage of the ongoing pandemic, so they had an imperfect understanding of how severe the pandemic was locally, nationally, and globally [32]. The result was that many students took lightly the safety precautions from teachers. Despite repeated exhortations, some students were found habitually not following prevention rules [33]. To address this issue, some schools invited professionals from local health services to educate the students on the severity of and self-protection measures against the coronavirus disease, in the hope of raising students' awareness of the COVID-19.

We told time and again how important it was to wear masks properly, but still, when teachers were not around, some students would take the mask off or pull it down under the nose or chin. So our school invited some medical professionals from local center for disease control and prevention to educate our students about the pandemic. By doing that we hoped instructions from experts could make students realize the seriousness (of the pandemic). (Participant 10)

Overall, the coping strategies developed by the teachers included holding weekly or daily special sessions of informing students about the pandemic, putting to use the posters and LED displays, collaborating with parents, etc. However, as was reported by the teachers, the coping measures above were far from adequate and fell short of fully satisfying students' information needs. For one thing, the teachers were poorly equipped in terms of resources available and they could not but try to bridge the information gap for their students with what they had. For another, with limited access to the internet, it became virtually impossible for special education students to seek information for themselves. Most of the time, they were left with no choice but wait to be informed.

3.2. Challenges and Barriers. Being able to seek information for themselves can reduce people's anxiety during a crisis [34].

Teachers under this study agreed that students with disabilities would be better informed if they could seek information for themselves and cell phones were believed to be the most frequented information source for them. The problem was that in order to combat mobile game addiction, student use of cell phones was strictly controlled. Some schools banned mobile phones outright. In other schools, students were required to hand in their cell phones, which would be returned only on weekends. That meant throughout weekdays, students were left with no alternative but to solely rely on teachers for the COVID-19-related information.

You know many students get addicted to mobile games. So in our school, cell phones are forbidden on weekdays. But now things are different and I think we need make some changes about how to manage cell phone use. And we do have students who came to us saying they wanted to learn about the pandemic themselves using their cell phones. (Participant 6)

Another challenge has something to do with antipandemic policies. Since the outbreak, many places have adopted a stringent approach to mitigating the crisis [35]. Antipandemic policies, especially the requirements for access to health facilities, varied with the development of the pandemic. When a wave was controllable, whoever needed to enter a hospital would be asked to show a green QR code which suggested that he or she was safe and had no physical contact with confirmed or suspected cases. When the pandemic turned grave, a green QR code would not be enough. Instead, a negative result for nucleic acid testing (NAT) taken within the past 48 hr was required. Drug stores and private clinics would be instructed not to sell medicines capable of easing symptoms of the COVID-19. What was problematic about the prevention policies was that people were often not informed in time and that the policies were often exclusive with no regard to those who needed regular medication.

Last month, I accompanied a student of mine to the hospital, but we were not allowed to enter. They said that to enter the hospital, we must show our 48-hour negative NAT reports. But nobody told us that before. They replied that the day before a couple of confirmed case were reported in the neighboring district and hence the new entry requirement. (Participant 1)

COVID-19 misinformation was another daunting challenge confronting the teachers. Since the outbreak of COVID-19, relevant information came thick and fast [36]. Faced with too much information, teachers often felt confused as to what information to believe and to share with their students. Misinformation concerning the pandemic became a no less harmful pandemic itself [16]. As it happened, whenever confirmed cases were reported locally or in the neighboring countries or cities, social media would be flooded with a torrent of information about the new wave of pandemic and/or the changes of local prevention policies,

making it hard for teachers to decide. Several teachers reported falling victim to misinformation at least once.

With so many social media platforms around, misinformation easily goes viral. The most annoying thing is that much misinformation is very deceptive and hard to verify. I myself was once fooled by fake news. (Participant 5)

3.3. Theme: Supports and Assistance Needed. Disability inclusion in providing information relating to the COVID-19, though recognized as crucial by special education teachers, was something that left much to be improved [37]. Daily public briefings held by national or provincial government represent an important source of information amid the pandemic. But as it was unfortunately true in many places, much information was inaccessible for people with disabilities [38–40]. For example, as of mid-November 2021, the Information Office of Gansu Provincial Government has held 24 press conferences to update the public about the pandemic, but none of them went with sign language interpretation or was captioned. Teachers further pointed out that students in special education schools would be better informed if there existed a television station specially targeted at those with disabilities, where tailored information was broadcast in an accessible manner with the assistance of captions and interpretation, and anchors spoke more slowly than usual in order for the disabled to fully take it in.

(...) we thought of arranging for our students to watch provincial government live briefings, but there was no sign language interpretation or captions. We even considered having our own colleagues interpret for the students, but simultaneous interpretation proved too difficult for us. (Participant 20)

In big cities like Beijing and Shanghai, they provided sign language interpretation for press briefings and even for news bulletins, but in poor cities, such as Lanzhou (the capital city of Gansu province), that's not the case. (Participant 1)

Teachers believed that sources of information specially designed for those with disabilities would greatly facilitate the work on informing them when a public emergency happened. It can take the form of a website. Teachers suggested that by collaborating with local governments and centers for disease control and prevention, associations for people with disabilities could collect reliable information in time and then render it accessible for people with different disabilities before sharing it on the designated website.

Nearly every city has its association for people with disabilities and all of them have their official websites. But you will be disappointed to find that information there is mostly inaccessible for those with disabilities. Besides, on these websites, there isn't much information about the pandemic. Most

information there is about what the associations or the local governments have done. (Participant 14)

Actually, the official websites of the association for people with disabilities can play a more important role. But so far what they did is simply reshare some news from other sources without doing any changes to make it accessible (for people with disabilities). I think they should at least open up a special section for accessible information about the pandemic and make regular updates. (Participant 12)

Technology, assistive technology included, found extensive use in the fight against COVID-19 [41]. The interviewed teachers also believed that technology would greatly improve the ease with which students with disabilities accessed the COVID-19 information for themselves. They hoped that students could be provided with portable and smart devices capable of transcribing speech, converting text to speech, displaying braille, sign language translation, and so on. With the help of assistive technology, students can not only search for information in real time, but it is also made possible for students to access information in a customized way that accommodates their individual limitations and diverse needs. In this sense, the utilization of assistive technology has the benefit of shortening information lag, empowering students with disabilities and thus reducing anxiety.

I believe that technology can be a big help. Actually, some special education schools in Shenzhen are already benefiting from mobile applications. These applications can switch speech to text and even convert text to braille. (Participant 13)

4. Implications for Future Practice and Research

Our analysis showed that teachers employed various ways to provide students with up-to-date information about the COVID-19, among which were holding weekly class meetings, making use of posters and LED displays, working with families, and collaborating with local health institutions. By taking these measures, teachers hoped to narrow the information gap for students with disabilities and better prepare them for the pandemic.

As demonstrated in the present study, however, much remains to be done in terms of keeping students with disabilities informed in case of a public health emergency. One of the major implications is that some difficulties facing students with disabilities are not specific to the COVID-19. In other words, some difficulties are not newly caused by the COVID-19, but are lingering ones that are only made prominent by it. A case in point is the lack of sign language interpretation services. According to some teachers, they have long felt the need for the authorities to provide sign

language interpretation when releasing information in times of emergency and they even put forward that proposal to those in charge, but nothing resulted. Indeed, providing interpretation services for those who communicate in non-dominant languages (including sign language) merits special attention in Gansu province, for the plain reason that in addition to those with disabilities, Gansu is also home to several ethnic minority groups and many members (especially the older persons) from those groups only speak their own minority languages (for instance, Tibetan and Yugu) and have a low proficiency in the dominant Mandarin Chinese, which make interpretation services all the more important. Lamentably, Gansu is not alone in this respect. According to Uekusa [42], linguisticism, by which he means linguistic discriminations against speakers of minority languages in emergencies and disasters, appears to be a global phenomenon.

What also matters is that information should be disseminated in a disability-inclusive way. Actually, disability inclusion is pledged, directly or indirectly, in many action plans, including the 2030 Agenda for Sustainable Development. A policy brief by the United Nations also calls for disability-inclusive responses to COVID-19 and gives extra weight to the accessibility of information [43]. Disability inclusion in disseminating information can be improved through multiple means. First, it will help a lot if information is made available in various accessible formats, such as text, video, audio, braille, and so on. That being the case, teachers will not have to convert information formats themselves, which is both time-consuming and inefficient because many teachers have little experience with that. In addition, when a piece of information contains too much specialized knowledge or jargon, a simplified version that is readily understandable should be provided. Finally, teachers are advised to do some information tailoring, so that students with disabilities are saved from navigating the sea of information and can timely access the information they care about most.

Also apparent from the study is that teachers alone can not fully cope with a crisis of such magnitude as the COVID-19, assistance from other players is critical. When asked about what they learned from the experience of informing students about the pandemic, some teachers felt it essential to establish a cooperation mechanism between special education schools and local associations for people with disabilities, because the latter are believed to be in the position to make students' needs known to the authorities, make teachers' voices heard and more importantly, lobby for policy change in favor of those with disabilities. Additionally, volunteers can play a big role as well. For example, the teachers spoke highly of a video specially made for students with disabilities by local college students majoring in special education. Actually, elsewhere in China, volunteers are also found to be of great help in easing communication barriers facing people with disabilities [44].

Another implication involves parental support. During lockdowns, it became exceedingly challenging for teachers to keep students up-to-date on the pandemic, because there were no telecommunication platforms available that were geared to people with disabilities. In this case, it is imperative that parents keep their children informed. But as teachers

reported, parents seldom made special efforts to timely and comprehensively update children. Instead of providing children with different kinds of information, parents only saw to it that children follow recommendations for self-protection. The inevitable result is a prolonged information lag, which may contribute to the challenging behavior of students with disabilities during lockdowns. Therefore, parents should be impressed on the importance of roundly informing their children of the COVID-19.

Finally, cell phone management in special education schools needs to be flexible enough to accommodate new realities. It is found that cell phones find significant application in the current pandemic and hold great promise for fighting similar public health crises in the future [45, 46]. First and foremost, for most people (of course including those with disabilities) the cell phone serves as a most convenient information channel. Using a cell phone, one can search for real-time updates on the coronavirus, detect the proximity of the infected cases, get to know the latest recommendations for preventive measures, and check the result for NAT. But as the present study found, in order to prevent distraction and mobile game addiction, students in special education schools were not allowed to use cell phones throughout weekdays. And for the same reason, parents also strictly controlled the time their children spend on cell phones. Thus, the possibility for students with disabilities to inform themselves of the pandemic is removed. Therefore, it is suggested that the use of cell phones be managed in such a flexible way as to allow prompt response to emergencies.

Data Availability

The data supporting the findings of this study are available from the corresponding author Min He upon reasonable request.

Additional Points

Limitations. The present study is subject to certain limitations. First, the results of the study are based on a relatively small sample. Second, this study only focuses on one province in China. Teachers' experiences and adopted measures may differ in other places. Therefore, comparative researches involving different regions or countries will yield interesting and instructive results. Third, the present study mainly explores teachers' experiences of providing students with pandemic information, but students' feelings and beliefs in the process are not known. Future research can try to find out how students with disabilities themselves feel about the way they are informed amid a public health crisis.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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