



Digital Learning and Child Development in Covid-19

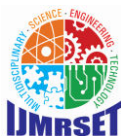
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ABSTRACT: With COVID-19 causing widespread school closures, children across the country are being given alternate resources, some online, to study outside of the classroom. Temporary solutions being devised for remote education range from online classroom tools like Google Classroom, to Zoom and podcasts by teachers. While parents are adjusting to this new scenario, during this time it's also important to help kids stay focused on learning and avoid overuse of games, social media, and videos. Online learning has been widely promoted to replace traditional face-to-face learning during the COVID-19 pandemic to maintain young children's learning and play at home. This study surveyed 3275 Chinese parents' beliefs and attitudes around young children's online learning during the lockdown of the COVID-19 pandemic. Most parents (92.7%) in the study reported that their children had online learning experiences during the pandemic, and many (84.6%) spent less than a half-hour each time. The parents generally had negative beliefs about the values and benefits of online learning and preferred traditional learning in early childhood settings. They tended to resist and even reject online learning for three key reasons: the shortcomings of online learning, young children's inadequate self-regulation, and their lack of time and professional knowledge in supporting children's online learning. Also, the hardship caused by the COVID-19 pandemic has made them suffering, thus more resistant to online learning at home. The results suggested that the implementation of online learning during the pandemic has been problematic and challenging for families. The Chinese parents were neither trained nor ready to embrace online learning. The paper concluded with implications for policymakers and teacher education. While countries are at different points in their COVID-19 infection rates, worldwide there are currently more than 1.2 billion children in 186 countries affected by school closures due to the pandemic. In Denmark, children up to the age of 11 are returning to nurseries and schools after initially closing on 12 March, but in South Korea students are responding to roll calls from their teachers online.

With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market.

Online learning is an educational process which takes place over the Internet as a form of distance education. Distance education became ubiquitous as a result of the COVID-19 pandemic during 2020. Because of these circumstances, online teaching and learning had an indispensable role in early childhood education programs, even though debates continue on whether or not it is beneficial for young children to be exposed extensively to Information and Communication Technology (ICT). This descriptive study demonstrates how a preservice teacher education course in early childhood education was redesigned to provide student teachers with opportunities to learn and teach online. It reports experiences and reflections from a practicum course offered in the Spring Semester of 2020, in the USA. It describes three phases of the online student teachers' experiences—Preparation, Implementation, and Reflection. Tasks accomplished in each phase are reported. Online teaching experiences provided these preservice teachers with opportunities to interact with children, as well as to encourage reflection on how best to promote young children's development and learning with online communication tools. The widespread prevalence of COVID-19 pandemic has affected academia and parents alike. Due to the sudden closure of schools, students are missing social interaction which is vital for better learning and grooming while most schools have started online classes. This has become a tough routine for the parents working online at home since they have to ensure their children's education. The study presented was designed to explore the experiences of home learning in times of COVID-19.



I. INTRODUCTION

With that in mind, **Children and Screens** has put together ten tips for families as they adjust to the new reality of learning at home.

1. DIGITAL QUARANTINE

Consider limiting your children's cell phones and tablets until their schoolwork is done satisfactorily, so that it can receive their undivided attention. Apps, games, and messaging features are fun, but they can also prove distracting. It may not be an option for everybody, but ideally, try to give your kids a dedicated device such as a school laptop for maximum online learning.

2. MAKE SPACE FOR LEARNING

Your children will achieve their best work in a quiet, comfortable, and dedicated space devoted to learning. Ideally, this will be a different set-up than where they normally play games or watch television. Keep in mind that children will be in this space for many hours each day, and parents should watch out for any orthopedic issues that may arise related to comfort and posture.[1]

3. MONITOR THE (COMPUTER) MONITOR

In this new learning milieu, you can help by monitoring your children's levels of interest and engagement in adapting to their new schedule and at-home materials. The simplest way to do this? Observation. Look at your child's eyes to see if they're following along with the screen. Check if they're taking notes or zoning out. Ask questions at the end of a lesson. While this may require taking an hour off from work or stepping out for an early lunch, it's important to confirm that your children are indeed learning. If you find that your child is not engaging with the lessons, don't be afraid to contact the school district or teachers to better explore the issue. Sometimes, easily remedied technical problems such as bad audio, poor connection, or an unhelpful camera angle can make all the difference.

4. DIGITAL RECESS

Make sure that your children take plenty of breaks in order to get physical activity and time away from screens. Set alarms similar to those they would encounter at school and encourage them to get up, get some fresh air, go for a walk or bike ride, or have a snack so that they are not sedentary for the entire day.

5. FACETIME

In-person interaction is ideal for kids, but until it's safe for them to return to school, encourage your children to video chat or text message rather than simply scrolling through social media. You don't want your children to feel socially isolated, but at the same time, you want to protect them from becoming wholly reliant upon their devices. Sit your children down for face-to-face conversations about screen time. In order to give them agency, discuss how much time they think is reasonable to spend online and make a "contract," committing to goals for on-screen vs. off-screen hours.

6. KEEP IT OLD SCHOOL

Overuse of screen time can have adverse impacts on young brains, so it's essential in these special circumstances to be extra careful when it comes to the littlest ones. As much as possible, parents should encourage print and book reading. If available, request textbooks from your child's school along with other print materials in order to offset the amount of online learning they will be doing. Studies show that remote education can be challenging for all ages, but especially young kids, so do whatever you can and always err on the side of caution. Stimulate self-expression by having discussions with your children about what they are doing, and also encourage creative writing and imaginative story telling.

7. WE'RE ALL IN THIS TOGETHER

Remember that you're not alone in this journey. Check in with other parents to see what they've found effective or to ask if they need help. Share your concerns and useful hints. If you need contact information for other parents or resources, reach out to the PTA or your child's school. It is important that we all work together as a community for the good of our children and families.[2]

8. PLAN YOUR WORK AND WORK YOUR PLAN

Good planning can relieve stress for both children and parents. Check in with your kids about their plans and help them develop a written schedule not only for the day, but for the week as a whole. Help them prioritize and learn to create goals, tasks, and deadlines, just like adults do when they go to work. Tasks that may not have been difficult for them while attending school in person can become more challenging when learning from home, so it's important to reinforce



boundaries and offer incentives for healthy behaviors. To avoid disruption, some after-school activities may be offered via online video apps, Facetime, or Skype.

9. THIS AIN'T NO VACATION

Even though staying home from school might feel like a holiday, remind your kids that they're not on vacation. Assignments, grades, requirements, and tests like state exams, SATs, and ACTs aren't going away just because classes have moved online.

10. DON'T FORGET TO HAVE FUN

Plan off-screen activities for the whole family. Between school and work obligations, it's rare for parents and children to have this much time together, so turn it into an opportunity for bonding. Write predictions for a TV show that the whole family watches. Organize a tournament, family card games, charades, or chess, or get outside for a hike or walk together after school. Follow your community's guidelines about safe behavior and events, of course, but make sure you still find time for fun with your kids.

Without a doubt, this is a challenging time for parents, teachers, and children alike. Studies show that screen time can have both positive and adverse impacts on kids, and the shift to online education will only increase your child's time with their devices.[3]

"Hopefully these common sense practices can help you and your family navigate this new terrain and make the most out of at-home learning," says Dr. Hurst-Della Pietra.

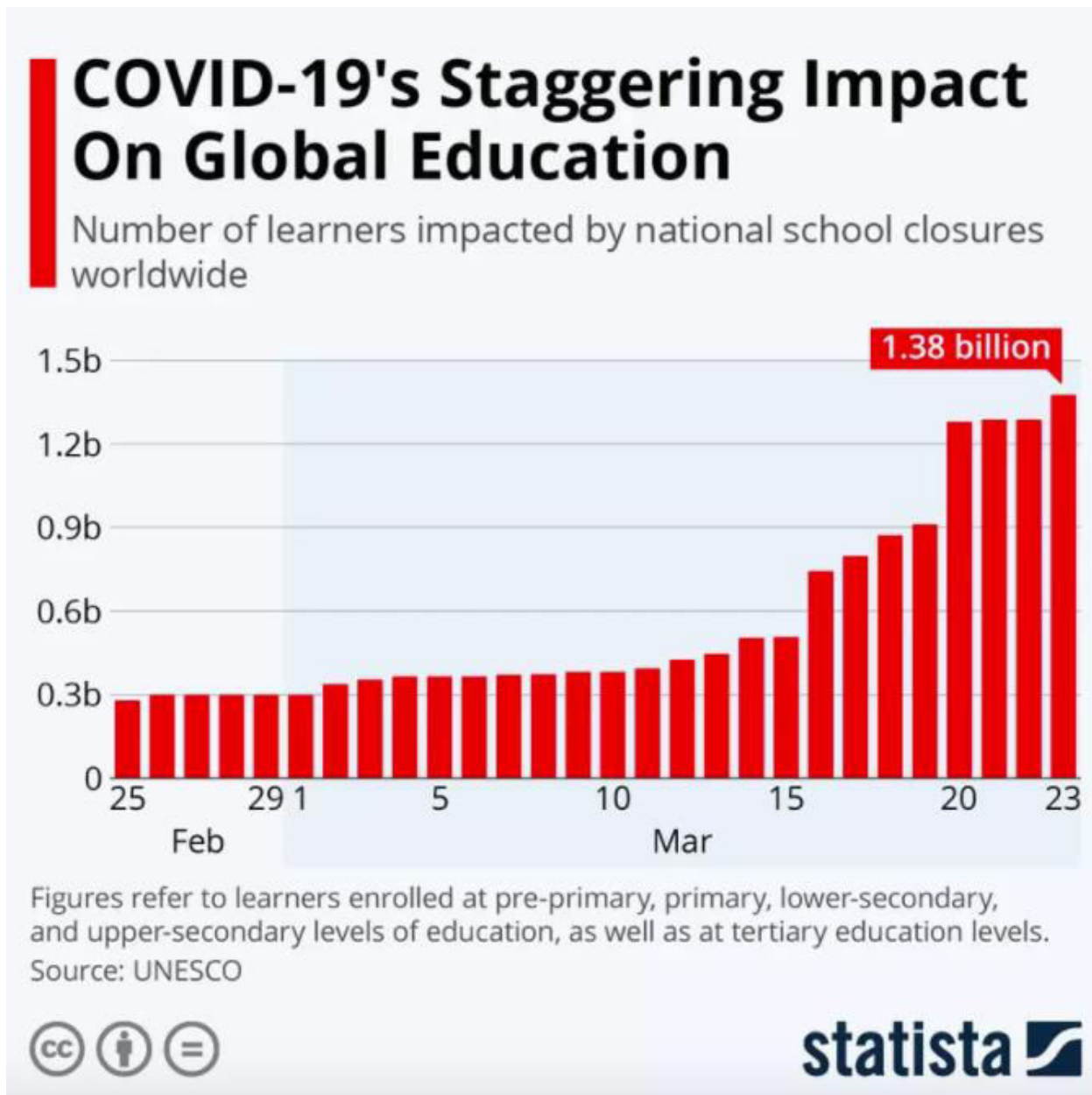
Digital and online learning is gaining popularity due to its advantages, such as greater flexibility, wider access, and low cost (Khurana, 2016, Chen, 2010). However, this study found that the implementation of online learning during the COVID-19 pandemic has been problematic and challenging for Chinese families. Chinese parents generally had negative beliefs and attitudes about the values and benefits of online learning and preferred traditional learning in early childhood educational environments. This is because they were neither trained nor ready to embrace online learning. The hardship caused by the COVID-19 pandemic has made them suffer, thus more resistant to online learning at home. And these Chinese parents were more concerned about the shortcomings of online learning, their children's inadequate self-regulation, and their lack of time and professional knowledge in supporting online learning.

This study, however, has certain limitations. First, a large-scale quantitative study can provide representative and diversified evidence about the target topic. Still, it has no way to gain an in-depth understanding of individualized situations and problems. Interview or mixed-methods studies should be conducted to thoroughly explore Chinese parents' authentic views, concerns, and difficulties. Second, this online study simply collected self-report data, which might have a socially desirable bias. Further studies with triangulation of methods (i.e., teacher-, self-, and peer- report) are needed to cross-check the results.

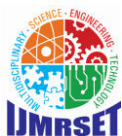
Nevertheless, for the first time, this study has investigated Chinese parents' beliefs and attitudes concerning digital and online learning during the outbreak of COVID-19. The national lockdown has unavoidably affected many children's physical attendance at educational settings and made online learning an emergent alternative to maintain the continuity of learning and play at home. Even though online learning has been widely promoted in China to replace traditional education during the pandemic, the findings of this study indicate that the Chinese parents were neither trained nor ready for doing so. This implies that the educational authorities need to do more to get Chinese parents ready for online learning and to consider more about young children's age and learning interests.[4] The findings from this study have implications for policymakers and educators globally who are promoting online learning as an alternative to young children and their families during the pandemic. The promotion and implementation of online learning to replace traditional early childhood education during emergent situations like COVID-19 need to be carefully considered and well planned to support families, rather than adding extra burdens to them. This means that the promoters should consider the complexity and diversity of families (e.g. more than one child learning online and parents' working full time at home) when suggesting an online class to young children, and provide parents with flexibility and convenience. In addition, the provider of online learning should improve the design of online programs (e.g. easy login) to make parents effortless in using the program.[5]



II. DISCUSSION



Major world events are often an inflection point for rapid innovation – a clear example is the rise of e-commerce post-SARS. While we have yet to see whether this will apply to e-learning post-COVID-19, it is one of the few sectors where investment has not dried up. What has been made clear through this pandemic is the importance of disseminating knowledge across borders, companies, and all parts of society. If online learning technology can play a role here, it is incumbent upon all of us to explore its full potential. In response to significant demand, many online learning platforms are offering free access to their services, including platforms like BYJU’S, a Bangalore-based educational technology and online tutoring firm founded in 2011, which is now the world’s most highly valued edtech company. [6] Since announcing free live classes on its Think and Learn app, BYJU’s has seen a 200% increase in the number of new students using its product, according to Mrinal Mohit, the company’s Chief Operating Officer. Tencent classroom, meanwhile, has been used extensively since mid-February after the Chinese government instructed a quarter of a billion full-time students to resume their studies through online platforms. This resulted in the largest “online movement” in the history of education with approximately 730,000, or 81% of K-12 students, attending classes via the Tencent K-12 Online School in Wuhan. Other companies are bolstering capabilities to provide a one-stop shop for teachers and students. For example, Lark, a Singapore-based collaboration suite initially developed by ByteDance as an



internal tool to meet its own exponential growth, began offering teachers and students unlimited video conferencing time, auto-translation capabilities, real-time co-editing of project work, and smart calendar scheduling, amongst other features. To do so quickly and in a time of crisis, Lark ramped up its global server infrastructure and engineering capabilities to ensure reliable connectivity. Alibaba's distance learning solution, DingTalk, had to prepare for a similar influx: "To support large-scale remote work, the platform tapped Alibaba Cloud to deploy more than 100,000 new cloud servers in just two hours last month – setting a new record for rapid capacity expansion," according to DingTalk CEO, Chen Hang.[7]

Some school districts are forming unique partnerships, like the one between The Los Angeles Unified School District and PBS SoCal/KCET to offer local educational broadcasts, with separate channels focused on different ages, and a range of digital options. Media organizations such as the BBC are also powering virtual learning; Bitesize Daily, launched on 20 April, is offering 14 weeks of curriculum-based learning for kids across the UK with celebrities like Manchester City footballer Sergio Aguero teaching some of the content.[8]

III. RESULTS

More than 1 billion children are at risk of falling behind due to school closures aimed at containing the spread of COVID-19. To keep the world's children learning, countries have been implementing remote education programmes. Yet many of the world's children – particularly those in poorer households – do not have internet access, personal computers, TVs or even radio at home, amplifying the effects of existing learning inequalities. Students lacking access to the technologies needed for home-based learning have limited means to continue their education. As a result, many face the risk of never returning to school, undoing years of progress made in education around the world.

With school closures across 188 countries (as of April 2020), many of them are exploring alternative ways to provide continuous education using technologies such as Internet, TV, and radio. However, access to these technologies is limited in many low- and middle-income countries, especially among poor households.[9]

- While more than 90 per cent of the countries adopted digital and/or broadcast remote learning policies, only 60 per cent did so for pre-primary education. [†]
- Policy measures taken by the governments to ensure learning continuity through broadcast or digital media allowed for potentially reaching 69 per cent of schoolchildren (at maximum) in pre-primary to secondary education globally. [†]
- 31 per cent of schoolchildren worldwide (463 million) cannot be reached by the broadcast- and Internet-based remote learning policies either due to the lack of necessary technological assets at home, or because they were not targeted by the adopted policies. [†]
- Online platforms were the most used means by the governments to deliver education while schools remain closed, with 83 per cent of countries using this method. However, this allowed for potentially reaching only about a quarter of schoolchildren worldwide. [†]
- Television had the potential to reach the most students (62 per cent) globally.
- Only 16 per cent of schoolchildren could be reached by radio-based learning worldwide. [†]
- Globally, 3 out of 4 students who cannot be reached by the remote learning policies come from rural areas and/or belong to the poorest households. [†]

Considering these data, it is important that countries do not rely on any single remote learning channel to reach *all* children. Additionally, expanding access to Internet and other digital solutions for all children would be one key long-term priority to reduce learning vulnerabilities.

IV. CONCLUSION

"COVID 19 has influenced my children's learning in two ways; formal schooling and socialization. Like, preparing for school and activities on time, listening to others especially teachers, maintaining different work folios, playing with friends, following a disciplined routine and so on. All these aspects are important for a child to become a responsible, taskoriented, disciplined and socially acceptable." "Distance learning is problematic when teachers are themselves not trained for it." "Teaching is moving online, on an untested and unprecedented scale. Student assessments are also moving online, with a lot of trial and error and uncertainty for everyone." "Going to school is not only about subject learning, but also social relationship and peer to peer interaction along with developing social skills. That's why it is



important to stay connected with the schools. This is the time to develop social-emotional skills. The role of parents and family, which has always been extremely important, is critical in that task.” “Teachers upload content and due dates are given to ensure students are on task. Repeated messages come from the schools to inform us about what to expect and what to do.” “Classes are conducted on specific timings, so we have to be available with the internet at any cost, it’s difficult when we have more than 2 kids at home going in the same school having classes at the same time.” “A proper timetable is set where my child wakes up at 8:00 am as he has Zoom classes. Till 2:00 pm he has to complete his given task of each subject, during that we both sit together to give my support in completing the school task. I also work from home so I am busy with him. After lunch and nap in the evening, we watch movies or cartoon sometimes and at night some board games with the whole family.”[10]

These are uncertain times for humanity in general and for the young developing minds in particular. To mitigate the physical and mental health consequences, the government, Non- Government Organizations (NGOs), academia and parents must provide a structure by utilizing regular routines, communication and developing new partnerships. The literature is still evolving, but some lessons can be learnt from the previous outbreaks (Decosimo, 2019) and countries who were initially affected (Wang, 2020). Home learning has emerged as a substitute to the conventional schooling methods, which should be made effective to provide essential learning skills to children at home using the limited available resources. Online resources which are adapted to our curriculum’s expectations can be implemented at home. The curricula should incorporate cautiously curated online courses which include physical and psychosocial components other than the academic goals (Mason, 2018). The limitations remain like how parents with different educational backgrounds will follow through the instructions; therefore, online schooling to support home learning can be a go-to strategy where teachers deliver education online. Centralized data dashboards, an adaptive interactive educational technology can be used to measure, monitor, organize and analyze data to keep the students, teachers and schools on target (Papamitsiou, 2014). Opportunities for enhancing teachers’ quality and lifelong professional development should be encouraged to be at the forefront of this transformative process. For academia, this comes as an opportunity to evaluate the effectiveness of different educational approaches and develop their own hybrid model of teaching and learning suited to specific educational needs. Input from families should be sought to create a learning environment that benefits everyone. The above-mentioned strategies will cause disruptive innovations in the education delivery system in the long term, which will further require feasibility testing, quality control and regulation. Thus, the government should establish regulating bodies to keep a check. Similarly, adjustments to the current educational budget should be made to incorporate such educational reforms in the time of emergency.[11,12]

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