

Secondary Education and COVID-19

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Secondary education is the second stage of formal education and traditionally begins after primary school, usually about age 11 to 13. The COVID-19 pandemic caused immeasurable changes to the educational system which inevitably greatly impacted secondary education. The current entry describes the changes in secondary education imposed by the pandemic and explores the accompanying challenges.

Keywords: secondary education ; COVID-19 ; challenges

The COVID-19 pandemic is an unprecedented crisis. What sets it apart from past health and other crises is that the SARS-CoV-2 virus, because of its high transmissibility, spread worldwide within a short period of time. As of 15 November 2021, there have been over 249 million positive cases and over 5 million deaths documented ^[1]. As COVID-19 was a novel virus, aside from its transmissibility, nothing was yet known regarding its effects and containment. Therefore, efforts focused on how past epidemics were combated, with social and physical distancing identified as the most successful measure ^{[2][3]}. Consequently, countries primarily employed this measure in school settings as a way to prevent the spread ^[4]. This ultimately led to the complete or partial closing of schools. Contrary to previous outbreaks, where education was disrupted for a short time, COVID-19 was the only pandemic that led to a large-scale and prolonged disruption of education ^[5].

It is worth noting how education was affected in previous crises. For instance, during the severe acute respiratory syndrome (SARS) outbreak in China in 2003, some governments chose to proceed with school closures as a way to prevent the disease from spreading. SARS's symptoms were similar to those of COVID-19, and it was identified as the first serious transmissible disease to occur in the 21st century ^[6]. School closures ranged from three weeks in Singapore ^[7] to over two months in China ^[8]. Other prevention measures that were applied included class cancellation strategies among upper secondary school and college students ^[9], mandatory temperature monitoring in primary and lower secondary schools ^{[10][11]}, and suspension of other child-related activities, such as sports, to prevent large gatherings that could spread the disease ^[7].

In general, it was found that school closure as a prevention technique did not make a notable difference in the SARS outbreak ^[12]. This was the case mainly due to the low transmission rate that was reported in educational settings and the low occurrence of the infection in children ^{[8][12][13]}. The transmission of SARS among children could be accounted for primarily by households, acquaintances, and relations outside of the school setting ^[12]. A challenge that occurred from school closures for working parents, especially for those that were healthcare workers, was the additional childcare needs that emerged and the lack of sufficient resources to satisfy them ^{[14][15]}.

Influenza A (H1N1) was another pandemic of the 21st century. Specifically, it occurred in 2009 in Mexico, and it spread worldwide, with the fatality number reaching 18,449 by August 2010 ^[16]. Through the outbreak, school closures in various countries lasted a month or less ^{[17][18]}. In some countries, effective alternatives to complete school closures were used. For example, restricting students in one classroom with one main teacher was found to be an effective preventive measure ^{[19][20]}.

Furthermore, during the Middle East respiratory syndrome (MERS) outbreak in 2015 in South Korea, following 186 confirmed cases and 38 deaths ^[21], a large number of schools were closed on a national scale. However, school closures were only for 10 days as health experts considered this measure unnecessary ^{[22][23]}. Nevertheless, preventive procedures were implemented in educational settings, such as temperature monitoring, which raised concerns from educators. This was because the teachers reported that they did not have the appropriate training to handle and implement such procedures, feared the associated stigma for students that did not meet the temperature criteria, and had an increased workload ^[24].

Notably, the largest impact on education was experienced during the Ebola virus disease (EVD) outbreak in West Africa between the years 2014 and 2016 ^{[25][26]}. During this outbreak, the countries that were most exposed to the virus were

Guinea, Liberia, and Sierra Leone, with 28,610 cases and 11,308 deaths documented [25]. In 2014, the rapid transmissibility of EVD led to school closures in the three countries that lasted seven to nine months, causing the loss of a whole academic year [27]. This resulted in serious educational setbacks caused by the expanding learning gaps. Additionally, a large increase in school dropouts was noted, especially in secondary school students from low-income households [28].

Likewise, other crises have affected the educational process. For example, earthquakes have inflicted physical damage on educational institutes, which has led to learning being disrupted and students being deprived of their educational rights. However, in many cases, the learning process was restored relatively quick with the use of remote teaching methods, such as online learning [29][30]. With human life loss and educational resources demolished, natural disasters have a negative impact on academic achievement of secondary school students and often lead to class repetition [31]. The financial loss caused by natural disasters often causes students to drop out of school and join the workforce so they can contribute to the household income [32]. Moreover, in countries prone to natural disasters, there is reduced investment in education [33], and the restoration of the educational process highlights the necessity for rapid reactions to students' needs [34].

On 11 March 2020, COVID-19 was declared a pandemic by the World Health Organization (WHO, Geneva, Switzerland) [35]. In an effort to prevent the rapid spread of the virus SARS-CoV-2 that causes COVID-19, governments suspended the normal operation of schools. From early on, China and Mongolia had taken the initiative to close schools as a preventive measure. Following the WHO's announcement proclaiming COVID-19 as a global pandemic in March, a total number of 109 countries ensued with school closures, and by April 2020, this increased to 151 countries [36]. Reports estimate that 99% of the student population was affected [37]. School closures varied from partially open to complete closure due to COVID-19. Fully closed schools included pre-primary to upper secondary level educational institutions, where at least 80% of their enrolled student population was affected. Partially open schools were of three types: (a) schools that were open for some grade levels or age groups only, (b) open in certain areas only, and (c) open with reduced in-person class time. For most countries, complete or partial school closures lasted for over 21 weeks [36]. Yet, some countries set criteria which allowed them to avoid closing all of their schools. For example, they set a cut-off for class sizes (e.g., Iceland), closed only certain levels of schools (e.g., only upper secondary schools in Sweden switched to distance learning), or reorganized their academic year to reduce the loss of instruction time (e.g., Korea, Lithuania, Australia) [38]. It is worth noting, however, that school closures do not imply cessation of education, but rather the transformation and adaptation of the mode of teaching.

It appears that educational institutes and systems were unprepared to handle a disaster of such an extent [5]. Therefore, the unfamiliar territory in the educational context amplified the concerns of schools, educators, and students, who were called to swiftly adapt to a new reality [39].

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