

Impact of American Education System Under the Covid-19 Pandemic Period

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Abstract: With the specific change of COVID-19 influence, our society was facing a huge challenge in operating the several concepts, especially in educational field. This paper observes the extremely effects of the pandemic on the American educational system during the current three years, suggesting the specific changes in students' achievement gaps, inequality of school resources, variety of pedagogical approaches and impacts on students' mental and physical health. Besides, it also focuses on the differences of school structure, including class structure and teachers' attitude to see if it mainly affect students' learning under such unnormal circumstance. The results shows that the pandemic of COVID-19 definitely brought negative impacts on learners, especially for low-income families. Students with weak educational treatments before. For example, Hispanic, Black, and indigenous will face the increasing possibilities of losing their educational chances due to the lack of school resources, difficulties in accepting new techniques and other problems that happened during the pandemic period. Based on these findings, our government can absolutely understand the problems and teaching needs faced by students under COVID-19 period, and better make corresponding plans to help more children get effective learning opportunities in a fair and equitable way.

Keywords: American educational change, COVID-19 pandemic, low-income students, effective learning

1. Introduction

According to García and Weiss, the Novel Corona Virus (Covid-19) is the fifth recorded pandemic since the Spanish Flue of 1918. Since the disease outbreak was reported in China, the virus has evolved rapidly and spread globally [1]. By March 11, 2020, the World Health Organization (WHO) conducted an assessment of the disease and declared it a global pandemic. The illness that began as a local infection in Wuhan has been disastrous to human lives across the globe[2]. At first the U.S. government did not take it seriously, and former President Trump insisted that society work as normal. So soon the United States fell into the virus. The first outbreak was in several prosperous cities, such as Washington, California, New York and so on, and there even existed an anti-vaccine movement. Later, after strong protests against the government by the states, the United States finally made changes by locking down the connections between cities, introducing online-working systems, etc., and a mandatory vaccination policy for the public. As a result, America had The pandemic's far-reaching impacts have impacted not only the work and lives of people globally but also various

education systems and their modes of teaching. The United States is one of the states whose education system was impacted by the pandemic. This paper seeks to discuss the impact of the pandemic on the American educational system during the Covid-19 pandemic period. While discussing the main topic, the paper shall discuss the background of what transpired in the American educational systems after the pandemic. The second discussion shall be a discussion on how the pandemic period changed the learning of students in different aspects: achievement gaps, inequality in educational resources, online learning difficulties, and the negative impact on mental and physical health problems. Lastly, the paper shall dwell on how the pandemic period altered school structure in various ways, including the class structures and teachers' attitudes.

2. The Background of what Transpired After the Pandemic

The assessment of the effects of the pandemic on the American education system has revealed a significant effect on K-12 students learning. According to the research findings, on average, the students were five and four months late in mathematics and reading at the end of the 2020-21 academic year [3]. The pandemic increased by widening pre-existing educational achievement gaps and education opportunities for students of color. In mathematics, most of the students from the black community were six months behind and engulfed in an incomplete syllabus. Students from poor neighborhoods were seven months behind [3]. Notwithstanding, the pandemic increased the opportunities of high schoolers dropping out of school from disadvantaged areas. In addition, high schools have become less likely to further their education to post-secondary education.

The crisis has significantly impacted academics and the wider context of the health and well-being of learners. According to García and Weiss, over 35% of parents are profoundly worried about the psychological well-being of their young ones [1]. The ripple effect of the pandemic may compromise the chances of the generation going to college and their ultimate intention of pursuing their dream career and getting their lifetime dream jobs. The analysis by Singh et al. points out that unless serious steps are taken to solve the puzzle of unfinished learning, the current students may earn approximately \$49,000 to \$61,000 less over their lifetime due to the consequences of the pandemic on their education [4], which is certainly unfair for them to gain lower self-growing space and also the expression of one's own value.

3. How the Pandemic Period Changed Learning in Various Aspect

3.1. Achievement Gaps Increase

For a long time, the academic achievement gaps between middle-class and low-income students have bedeviled many learners in the United States. Despite the academic disparities, considerable research has pointed out that the Covid-19 pandemic may explode the academic disparities between middle and low-class students. The pandemic outbreak revealed that in math and reading, children raised by college-educated parents, on average academic scores stand at the 60th percentile. In contrast, those of parents with only high school education are 35% [3]. On the other hand, the academic achievement of children whose parents have a master's degree and beyond are even more advantaged and has higher academic achievement scores than any other group. Children from low-income communities are severely impacted by socioeconomic problems hence devoting less time and attention to academic instructions.

In fact, pandemic period led to a serious damage to the original operation of educational institutions in some local area. Sari and Nayır posit that parents, educators, and students have firsthand information on the high cost of digital learning due to the Covid-19 pandemic that led to the c schools' shutdown [5]. The Covid-19 pandemic has dramatically affected the learning opportunities

for Hispanic, Black, and indigenous children because they have been robbed of their livelihood as the shutdown of schools denies them the educational opportunities they need to create a gleaming future.

Besides, pandemic has adversely affected the academic growth of several students of color, hence widening the pre-existing educational disparities witnessed in the U.S today, especially in mathematics and reading. Early research reports produced in 2020 had a mixed outcome, with some showing academic growth for several students while others are projecting a more significant academic loss for all students, with higher losses reported among students of color [6]. At the federal level, reports from two popularly sued formative assessments of key academic skills: the Renaissance Star Assessment and the Northwest Evaluation Association (NWEA) Measures of Academic Progress (MAP) for assessing math and literacy, have revealed that pre-existing disparities between white and students of color increased slightly during the early months of the pandemic [7]. According to the Renaissance Star report, the pre-existing academic gaps between the white and black students increased somewhat in the onset months of the pandemic. However, when comparing the 2020 and 2019 students' academic performance analysis by Renaissance Star, the related effects of the pandemic on the students were more profound in math than reading. The study also highlighted that the impacts were felt differently across students and schools. According to Cahapay analysis, Black and Hispanic Students underwent severe negative implications of the pandemic compared to their white counterparts [8].

On the other hand, the NWEA MAP study revealed unclear performance patterns among students of color. A study conducted based on the academic performance results by i-Ready Diagnostic assessment by Curriculum associates showed a starker variation across all the students learning groups [9]. According to Batdiet al., in the fall of 2020, students learned only 67% of math and 87% of learning that would have been done at the grade level. This was found to translate to 3 months of learning loss in math and one and half months of loss in reading that would not have occurred had there been no Covid-19 pandemic outbreak [10].

Even though the losses were acute, they affected students and schools differently. Severe impacts of the academic days' loss were felt the most by schools of color. Through the extrapolation of the data findings, Lakhani project that black student might have lost 3-5 months of education in mathematics by the fall, whereas white students only lost 1-3 months [7].

On the same note, small-scale studies also indicated that by fall 2020, the pandemic had started widening disparities and gaps in academic growth. In support of this, researchers from Ohio State University reported that the average academic achievement for third-grade students in language and arts had decreased by about 0.23 standards deviation between the fall of 2019 and 2020. On the other hand, black students witnessed a test decline of approximately 50% greater than white students [7]. As of Winter 2021, updated new assessments revealed that the disparities in academic growth continued to increase through the fall.

With the increasing focus on students' learning under the pandemic period, student progress in reading and math was nearing the expected levels during the first half of the academic year 2020-21[3]. In several grades, the impact of the pandemic has begun shrinking. However, the truth is that despite the positive signs, the research also discovered serious concerns. Li and Cheong found that by Winter, early middle school and late elementary students struggled 8-11 weeks behind the mid-year academic expectations in math. On the other hand, middle school students experienced 6-10 weeks behind expectations in reading[11]. The pandemic continues to affect students' learning process, and our efforts are still not able to cure the students' condition.

3.2. Inequality in School Resources

The decades of slow but steady progress in narrowing the educational gaps between communities was stifled in 2020 by the outbreak of the Covid-19 pandemic. Over 1.4 billion students were locked out

of their pre-primary, primary, and secondary schools as the pandemic outbreak spotlighted the existing economic and racial disparities that various learners have to persevere in their quest for education.

In fact, before the outbreak, learners from vulnerable communities, especially Blacks, Latinos, and Spanish Americans, were already experiencing the inequalities daily. According to Amram's thesis, the imbalances ranged from access to books and student's teacher ratio [12]. The additional life stressors, such as systemic racism and trauma-induced suffering, aggravated the learners' health and wellness, posing serious barriers to learning. Before the pandemic outbreak, children from marginalized communities were already struggling to afford quality education, and the situation worsened with the pandemic outbreak.

Since the shutdown of schools due to the pandemic required remote learning majorly supported by digital technologies, poor and marginalized families found it much more challenging to acquire the necessary learning gadgets to facilitate their children's education. According to Amram and Davidovitch, Hispanic and Black community households were 1.2 to 1.3 times more likely to experience limited access to digital technological resources such as computers and the internet than their white counterparts [12]. To make matters worse, only two in five learners from the low-income household had limited access to these resources. This was more likely to have a far-reaching consequence on the students of color, for whom a greater percentage of their parents live in remote districts [9]. Despite the internet and computer being a crucial resource for learning in the 21st century, it is unfortunate that most learners from marginalized communities lack internet connectivity, no computer devices, and even the circumstances that may provide the support they need.

Due to economic disparities between the middle and low-income earning households, it became quite apparent that learners from middle-income families whose parents could afford to contract tutors were better placed to compensate for what they missed in the digital class and could record marvelous performances. Children from impoverished backgrounds whose parents depend on menial jobs for a living would find it rough catching up with colleagues on topics they never understood.

Moreover, school funding has also become a crucial factor that increases the inequality gap between different colors. According to Batdı et al., most school districts don't have enough resources for their learners because of the lack of school fundings that provided by the local government [10]. Based on the 2019 survey, white district schools received more funding than non-white ones handling the same population of students. The variation is based on property taxes, considered as the main sources of school funding. However, since white districts seem richer compared to those of color, the disparities in school resources continue to widen, worsening during the pandemic.

3.3. Difficulties in Online Learning

Even though remote learning existed way back, even before the Covid-19 pandemic, e-learning became the order of the day as learning institutions scrambled with it to keep their doors open. At this point, digital learning tools became a boon, bringing them benefits and challenges. To begin with, according to Batdı and colleagues, lack of student motivation has been a thorn in the flesh of digital learning [12]. It was first perceived that e-learning would be a very interactive and immersive strategy for teaching the new generation. Still, its endless sea of texts and frequent learning assignments has made students lose motivation.

Secondly, e-learning requires technological and internet infrastructure that students from marginalized communities find challenging to get based on the economic status of their backgrounds. Some technical resources include constant electricity, internet, and computers. Unfortunately, in developing countries are only available in big public libraries; hence not all children can afford them at their convenience [8]. Thirdly, remote learning requires digital and technological literacy that many

parents do not have. This is not digital literacy as much as this generation can proficiently work with computers. To effectively and perfectly study through an online system, one must have a robust understanding of several software and computers that present a great learning curve. Based on the technological problems associated with computers, some students had the worst encounter with digital learning making them more discouraged. In addition, it is very challenging for students to get a satisfactory explanation of areas they don't understand, as in the case of in-person learning, where a teacher can promote personal attention.

3.4. Negative Impact on Mental and Physical Health

Multiple research studies have revealed that the Covid-19 pandemic negatively impacted learners from pre-school to college. In a survey conducted by Yıldırım et al., one in every five respondents revealed that their mental health status worsened during the pandemic, with more than 80% of college students reporting that Covid-19 impacted their mental health negatively [9]. During the pandemic, many students said increased anxiety and stress, sadness, loneliness, and isolation levels. Also, according to Dorn's thesis, students faced an increasing possibility of approximately 3-5% in average in these mental health problems, including social withdrawal, self-isolation, lethargy, and irrational fears [13]. These findings were similar to those of some faculties. Results in parents' perspectives, 87% felt that their students' mental health had worsened during the pandemic period.

The effects of mental health on students were also found to be varying depending on race. According to Islamy et al., students of color, Latinos, Alaskan Natives, American Indians, Native Hawaiian, and Pacific Islanders showed disproportionate high effects on measures of grief and loss. From the research, Latinos reported the highest struggle of all the students seeking mental health services than any group with focus and motivation. Islamy and colleagues revealed that many children and college students felt more depressed, anxious, distressed, and exhausted than before the pandemic. In addition, other factors such as the family's low socioeconomic status, rural environment, being a family member or friend to a healthcare professional, and knowing someone affected with Covid-19 were closely linked to adverse mental health status in children and college students [11]. Lastly, the Covid-19 preventive measures such as lockdown and social distancing denied many students the opportunity to interact with their colleagues, making them lonelier and more depressed.

On the physical health of learners, Gözümlü et al. revealed that lockdown, quarantine, isolation, and social distancing harmed the physical well-being of students [14]. In a longitudinal survey on the effects of the preventive measures of Covid-19 on the wellness of school-going children, it was discovered that the closure of sports facilities and schools led to reduced physical activity and raised BMI.

4. Change in School Structure by the Pandemic

4.1. Class Structure

The covid-19 pandemic has revolutionized the landscape of learning. Schools changed from in-person learning to a hybrid instructional learning approach to prevent the spreading of Covid-19 infections while ensuring learning does not stop. There are four models of hybrid learning: flex, rotation, A La Carte, and Virtual [14]. To begin with, the rotational model involves students rotating between various learning modalities, and one of the modalities must be an online medium of instruction delivery. Under the fixed model, the online components are the primary pillar of learning. In A La Carte Model, learners can work on their coursework online or face-to-face. This kind of learning differs from online studies because learning is never fully based online. In addition, under this type of hybrid learning, students can complete a few of their assignments digitally and others face-face-at

traditional learning environment. Lastly, the online learning model entails organizing all learning strategies into a single digital model.

4.2. Teacher Attitude

The pandemic has reduced teachers' motivation and attitude towards their work. Amram and Davidovitch, many teachers considered leaving or retiring from the profession between 2020-2021. As of March 2021, 42% of teachers declared leaving the profession due to Covid-19 [12]. According to a research study by Afroz et al. on the attitude of teachers and students toward digital classes during the pandemic, the study revealed that time effectiveness, cost, convenience, safety, and flexibility were found to be the most quoted aspects of online learning. On the other hand, teachers' negative attitude towards teaching was also eminent. The negativity resulted from the reduced focus of students, the high workload on teachers, internet and technological challenges, poor network infrastructure, and lack of adequate skills to handle the technical challenges of digital learning [15]. In addition, low attendance of learners to online classes and lack of adequate learning resources made some teachers feel quite sorrowful about students. Moreover, teachers handling lower-grade students thought that the digital learning mode was never appropriate for delivering content and instruction to learners. The technological frustrations encountered by the teachers who are not proficient in I.T. killed the passion of many teachers as a good percentage of them show a high intention of quitting the profession.

5. Conclusion

The covid-19 pandemic impacted the American Education system quite negatively. Even though online learning was a panacea of education during the pandemic, it disproportionately impacted learners. Students from low-income families find it challenging to catch up with their white counterparts who had a good experience with technical guidance from their parents. Consequently, learners' performances were negatively impacted. Emerging evidence indicates that Covid-19 affected. The academic growth of several students of color widens the pre-existing educational disparities witnessed in the U.S today. The pandemic has significantly compromised the learning opportunities for Hispanic, Black, and indigenous children because they have been robbed of their livelihood as the shutdown of schools denies them the educational opportunities, they need to create a gleaming future. In addition, the pandemic also revealed the existing disparities in school resources.

Notwithstanding, the research has also proved that the pandemic was also disastrous to students' mental and physical well-being. The stress caused by technological frustrations and high work overload increased the levels of depression and anxiety in students. Moreover, due to the closure of schools and implementation of public health preventive measures towards the pandemic, such as quarantine, students' physical fitness decreased even as cases of obesity and overweight rise due to lack of physical activities.

The federal government should ensure that all families and children have equal access to resources and services. For this to be sustainable, there is a need for efficient financing to ensure district schools in marginalized areas are not under-resourced. In addition, the government should reduce the rate of school closures. Using the available recovery funds helps providers shut down during the pandemic and get back on their feet, and many more children shall be enrolled in schools for better education. Lastly, the government should assist the early care and education workforce by increasing their compensation, bonuses, and mental health support while enhancing the overall working conditions. This will help attract and retain more staff who, due to the Covid-19 pandemic, have reduced attitude and loss of motivation in teaching.

The heading of a section title must be 12-point bold, aligned to the left with a linespace single and an additional spacing of 10-point before and 10-point after. The initial letters should be capitalized. Dot should be included after the section title number.

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