Opening Up the Schools?

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SIX MONTHS SINCE the worst health crisis in 100 years began, there is no sign that it is under control in most parts of the world. In the United States, it has created mass unemployment, exposed the vast rifts between the rich and poor, and promises to widen them unless the social movements impelled by Black Lives Matter and teacher/community organizing can continue to reframe the political, social and economic landscape.

Until mid-March, when governors and mayors took drastic steps, with orders to shelter in place, closing businesses and schools to slow the spread of the virus, many people continued their lives with a growing sense of fear of what would happen. Most schoolteachers had just a few days of warning before their schools were (rightly) closed.

Let's imagine how a socialist society would confront this crisis.

First, it would have already prioritized the infrastructure that people need. Hospitals and neighborhood clinics would have been built on a public health model. That is, it would develop sustainable and preventive measures as opposed to the high tech and expensive approach used in the country today.

Studies would examine how the virus is transmitted and what measures could be taken to interfere with transmission. Until a vaccine is developed, infected people would be isolated to prevent them from spreading it. This means they would be supported with food, lodging, and appropriate care while their immune system dealt with the infection. For those whose immune systems trigger an excessive response, quality medical care would be available.

Second, schools would have already been reorganized. All the old weaknesses of public education crumbling, poorly ventilated buildings, funding inequalities, overcrowded classrooms, insufficient social and emotional supports would have been replaced by a well-maintained and resource-rich school and its gardens. By significantly reducing class size, small clusters of students (five to seven students) might be able to continue in-person classes.

Third, the work week would have been reduced with paid time off. When people got sick they would not be expected to go to work.

Fourth, learning would be viewed as a lifelong process. A variety of teaching and learning styles would be assumed. Control of the curriculum and the ability to change it would no longer be driven by national "common core standards" or local school boards, but by teams of teachers who are the real experts in how to adapt their subject in terms of the needs of their students and the challenges of remote learning.

Fifth, industrial food production would be dismantled and the destruction of forests halted. This would minimize the danger of transmitting viruses from animals to humans.

Instead, in today's capitalist economy we are faced with multiple dilemmas that are more political than scientific in nature. Most importantly, the economic closures have produced the greatest mass unemployment since the 1930s Great Depression. And because the economy is based on what is profitable not what is needed we now face the pressure to reopen business.

In order to do that, schools need to be opened so parents can get back to work. Yet there are no clear conditions for
what measures need to be taken to make schools safe. The fact that this is happening two months before the presidential election adds to the pressure Trump is imposing. 

As the number of U.S. positive cases remains over 50,000 a day, the Trump administration piously declares that education is essential. In other words, children, educators and maintenance staff are all expendable.

**What Is Known About SARS-CoV 2?**

We now know that up to perhaps 40% of infected people never show outward symptoms, yet are still infectious. [1] To detect these people requires testing on a much larger scale than has been developed six months into the pandemic.

Tests are limited because of the type being used, a polymerase chain reaction (PCR) test that requires swabs, pipettes, and chemical reagents to process it, and because it is costly ($150 or more per test). Yet capitalism has centralized production to low-cost locations and uses “just-in-time” distribution, insuring that with any crisis, these vital supplies are in short supply.

The tests also depend upon automated, but expensive, machines to process the samples and produce a bottleneck. It may take days or even a week to receive the result. Even were there an adequate number of trained tracers, such a delay makes that too late to do any good. Privatization of health care in general leads to a form of “lean production,” where decisions on staffing, number of beds, and number of hospitals are based upon profit margins.

The rate of deaths among people who contract the virus is estimated worldwide at between 0.5-1.0% and recorded deaths currently are over 750,000, with the United States at 175,000. But even the majority who survive are not ensured a complete recovery. [2]

Prolonged illnesses, evidence of blood clotting leading to strokes, permanent damage to the lungs and neurological abnormalities are among the serious side effects. A few have undergone surgery to have their lungs replaced. Mortality is highest in older people, but people of all ages have died from COVID-19.

Study of the virus has led to some conclusions on transmission contrary to what was initially stressed. This is a respiratory virus, and the main means of transmission is through droplets expelled when those infected (including asymptomatic people) spread viral particles as they talk, breathe, cough or sneeze. The bigger particles quickly fall, while the smaller linger in the air and drift farther away.

Studies have shown that a six-foot separation distance is reasonable for avoiding the larger droplets but the smaller ones are likely to continue spreading. However, as of now there are no conclusive studies on differentiating between these modes of transmission. We do not know what proportion each plays nor what is a safe distance to avoid aerosolized particles. [3]

Cleaning surfaces can't hurt, but wearing masks is far more effective in limiting viral spread. Enclosed spaces are far more dangerous than being outdoors. The cases where numerous people have caught the virus reveal the commonality of being poorly ventilated, with many in proximity to each other over prolonged periods of time.

The Diamond Princess cruise ship, meatpacking plants, prisons, and nursing homes all share those characteristics.
along with today's schools. [4]

Disproportionate mortality rates in Black and Brown communities are more a consequence of poverty rather than "poor life choices." Poor people are more likely to be in "essential" jobs, less likely to be able to work at home, have paid sick leave or health care coverage. They are also more likely to share smaller spaces with extended families and when they become sick since they have little health coverage or paid sick time less likely to seek medical care.

What is the relative risk of COVID-19 infections and the transmissibility of infected children? A study of 55,000 people who had the virus reveal that almost 80% of the deaths were those over 65; less than one percent were under the age of 18. [5]

The risk of serious illness is also concentrated among older people. But some children have had the virus and died from it, and all who have the virus can transmit it. A recent study from Korea showed that children under the age of 10 transmitted the virus at 50% of the efficiency of adults, while those between the ages of 10-18 transmitted at the same rate as adults. A smaller study of children under the age of five found that viral loads in nasal tissues were 10 to 100 times higher than that in adults. [6]

This study shows that children are not immune. Schools are not safe havens from the virus. In fact, they pose a risk of transmission from school to home and vice versa. [7]

The Public Health Response

Political wishful thinking, outright stupidity and a focus on Wall Street meant that the federal government dilly-dallied for the first couple of months. The testing debacle is due not only to lack of planning and a slow response by agencies like the Centers for Disease Control, but also due to the hollowing out of the U.S. public health system since Reagan was president.

The federal government's refusal to direct production of needed PPEs and testing supplies allowed price gouging and speculation at every level. Each governor was forced to compete with others in order to obtain the needed materials.

By the middle of August, the average number of daily tests averages are about 750,000, but seems to have plateaued. This is still far short of what is needed to accurately track and curb the spread of this virus.

There are rapid antigen tests akin to those used in home pregnancy kits, which can be used to detect the viral particles that induce antibody production. They are not as sensitive as the PCR tests but have the advantage of giving results within 10-15 minutes and are cheaper, possibly $1 a test when production gets up to scale.

If production of such a test were prioritized, it would be possible to test every person every day by just having them spit into a tube of saline solution and dip a test strip into the saline.

Alternatively, you could test at-risk populations like agricultural workers and those in food processing plants, prisoners as well as schoolchildren and staff. Rapid test results would allow for quarantining immediately and effective contact tracing. [8]
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Any scenario that would allow safer reopening of schools would have to ramp up testing and tracing. Otherwise it will be difficult to reduce the risk of transmission.

How Effective is Remote Learning?

Even if schools had prepared for a scenario of online learning in case of a public health emergency, no educator would put forward remote learning as equivalent to in-person classes. The reality of online learning has given parents a greater appreciation of how hard teaching is.

True, there are online resources that can be useful in supplementing a curriculum, but the ability to interact with students is almost completely lost. U.S. Education Secretary Betsy DeVos would never enroll her children in an online charter school, and neither should we.

The deficiencies of online learning actually mirror the disparities in society. The lack of school resources in poor neighborhoods or rural areas are replicated by remote learning: lack of laptops, no high-speed access to the internet, little infrastructure to learn new software, a transition to presenting lessons via computer and the effect of large and impersonal classes.

Most important is the lack of empathetic contact between teachers and students, the difficulties that younger students have in focusing, and added burdens students with Individual Educational Plans and English language learners face.

One of the most obvious problems is student engagement. Not a lot of data have been collected, but the Chicago Public Schools released data that showed during the week of May 11th, only 60% of students logged on at least three days a week and 25% did not login at all. These metrics show the challenges educators face. [9]

Punishing students who fail to log in is counterproductive to a learning environment. Yet in Michigan's affluent Oakland county a 15-year-old student with learning problems was sentenced to a juvenile facility during the pandemic. Her crime: failing to complete her online homework. Taken out of court in handcuffs, Grace was in detention from mid-May until August 11. Of course she was African American. Fortunately the Black Lives Matter movement protested and eventually she was released to her mother. [10]

The American Academy of Pediatrics (AAP) released a report on June 21st that called for a safe return to school in the fall. The thrust of the document is that the negative effects on students from being out of school outweigh the risks of being in school. They pointed out that COVID-19 appears to act differently than the flu in children and that the risk of severe effects and rates of transmission may also be lower.

Since the AAP’s report, the careful study of Korean children I mentioned earlier showed a differentiation of transmission between those under and over the age of 10. This contradicts some of the AAP’s more hopeful assumptions, as does the July 30 "Children and COVID-19: State Data Report" the AAP and Children's Hospital Association released. It concluded at least 338,000 U.S. children had tested positive, with 97,000 in the previous two weeks. [11]

It was also disappointing to read AAP's suggestion that three-feet distancing of students may be sufficient. The research documenting aerosol spread strongly supports a greater distance. AAP seems to say that the educational needs of students supersede health needs. Why should society be forced to make such a choice? [12]
Staff and the parents of schoolchildren fear school will be a site marked expendable just so the "economy" can resume. No wonder a Chicago Public Schools survey showed about 80% of Black and Latino families said they wouldn't send their children back for in-person instruction. [13]

**Precautions to Make Schools Safe?**

We know that prolonged exposure to aerosolized viral particles is a key risk. If the numbers of COVID-19 cases in the community were low, or going down, what measures would need to be in place to prevent schools from being another potential hotspot of infection and spread?

Massive amounts of money would be necessary to retrofit schools and hire more staff. The American Federation of Teachers estimates that schools will need $116 billion to provide for more staffing (instructional, health, and custodial), PPEs, cleaning supplies, transportation, technology and social and emotional support. The School Superintendents Association estimates the cost at $200 billion.

Currently no money has been allocated by Congress, and many state budgets may lose money this year and next in what was an already underfunded budget.

Measures that need to be taken in schools include dramatically cutting class size, with no more than a dozen children in elementary classes, improving the school building's infrastructure, and hiring more teachers, paraprofessionals, nurses and social workers as well as custodians.

Teachers have always fought for a reduction of class size. Education works better when students get more individualized attention. From personal experience I can say that when the number of students goes above the low 20s in high school, and even lower in the elementary grades, it is no longer possible to check in with individual students. In the middle of a pandemic dramatically lower class size is not only pedagogically better, but the reduction will make it more difficult to transmit viral particles.

Instead, the push to open schools regardless of threats to health is threatening to cause an exodus of older teachers if they are not allowed to work remotely. This comes at a time when more, not less, staffing will be needed amid a teacher shortage.

Most important is improving the ventilation enabling windows to open and updating the air filtration system with High Efficiency Particulate Air (HEPA) or MERV 13 filters capable of removing viral aerosol particles and circulating air between the room and the outside. Additionally, handwashing stations need to be installed in classrooms, and provisions of PPEs like masks and hand sanitizer made available at all times.

There has to be attention to working out details such as how to limit interactions in common areas, creating small cohorts or pods of students that are isolated from other cohorts, providing time for individual students to wash their hands, and installing lids on toilets (yes plumes of virus particles can be emitted when toilets flush). This involves planning and is extraordinarily expensive, far beyond the pale costs suggested.

Many schools are notoriously filthy, a result of cutting staff and/or outsourcing cleaning to private companies like Sodexo or Aramark. While viral transmission through touch is not thought to be as significant as aerosol transmission, maintaining a clean building will help, and reinforce the idea that schools are taking all possible measures to keep people safe. Additionally, many schools have severe structural problems, as the Detroit teachers
demonstrated just a few years ago when they struck over rats in the school and crumbling ceilings.

In the ideal return to school, there would be daily or frequent testing of students and staff. That would detect infections earlier and limit transmission, but in absence of mass or targeted testing there will be confirmed cases of infection and protocols need to be in place to deal with that. Smaller class sizes, cohorts, and limited interactions will reduce the number who need to be traced, but anyone who has been in contact with an infected person needs to be retested and perhaps go into 14-day quarantine. Provisions need to be made in expectation this would happen.

Robust social and economic supports for students and their families must exist to enable them to quarantine when necessary. If ever the need for universal health care was doubted, today it is imperative.

What have schools done to prepare for reopening? Generally, they were asked to prepare three plans: for online instruction, for in-person classes and for a combination of the two. To set up the physical school they probably got more sanitizer, masks and thermometers and installed some handwashing stations.

Perhaps they have done some planning about minimizing contact between classes, like canceling music and art and having children eat their lunch at their desks.

The experience of online learning in the spring should have spurred districts and departments of education to be feverishly working to improve access to the internet and to plan for how the content of classes can be better presented online. For the most part that did not happen as they hoped that the virus would "magically" disappear.

However, Betsy DeVos and several state legislatures are attempting to inflict damage on public school teachers who are highly unionized and willing to fight for quality education and for their rights. DeVos has ruled that public and private schools must split federal funds provided under the Coronavirus Aid, Relief and Economic Security (CARES) Act, regardless of schools' economic needs.

A few legislatures are considering bills that would mandate that districts administer testing at all grade levels. Since this would require a report to appropriations subcommittees, it may be used as a hammer over those districts who "fail."

Such bills show the limitations of a rigid standards-based curriculum where administrators are focused on meeting state learning goals. Actually, students and staff alike are intensely interested in this crisis as it plays out. In biology it would be natural to adapt the curriculum to aspects of viral reproduction, how viruses hijack cellular metabolism, the cellular nature of life, how the virus enters cells, the immune system response and so on. The nature of the scientific process and research would be demonstrated and studied as it plays out in real time.

Mathematics could look at modelling viral growth rates, economic costs to produce vaccines and tests, and how data are analyzed through statistical analysis. History and literature might study the numerous examples of plagues and pandemics including the Black Death, the 1919 influenza epidemic, and the introduction of smallpox to the Americas and its decimation of the Native American population. All subjects can be personalized and made more meaningful.

Are Schools Ready to Open?

From a safety perspective, no. The lack of testing and public health measures has led to widespread rising
COVID-19 cases in most of the country. Counterposing the needs of in-person student education versus safety is unfair to children, parents and school staff.

Proponents prioritizing the reopening of schools range from those like pediatricians who do understand the educational and social needs of children to politicians like Trump and DeVos, who cynically want to open schools to further their agendas. They have never supported adequately funding public education.

Polling released on July 27 by the Kaiser Family Foundation indicates that by a two-to-one margin, the public believes, for safety reasons, schools should open later rather than earlier. Among parents of color the ratio is three to one. By 71% to 22% people believe that schools need more resources to open safely among parents of color the numbers go to 82% to 17%.

Among parents, high or moderate concern over the possibility of teachers, students or family members becoming infected range from 79% to 69% and parents of color show about 10% higher concern. Parents are also worried about their children falling behind academically and need services provided by schools like breakfasts and lunches. [14]

The prudent course is to take the measures necessary to control the virus in the community and provide the resources that will improve remote learning. Meanwhile, the plans should begin to provide the resources for a safe reopening of schools when the viral presence in the community is low and declining.

The less-than-transparent process of how or whether to open schools by local districts and the lack of clear guidelines by agencies like the CDC who suggest social distancing "if feasible," make these mostly unilateral decisions particularly stressful for parents and school staff. People are rightly distrustful of decisions that are centered neither on science nor safety.

Most importantly, teachers and parents have by and large been left out of school planning. Safety committees containing parents, students, teachers and staff need to be set up and empowered to have public discussions on what measures need to be taken for schools to safely reopen. These need to continue once schools begin again.

Teacher and community pressure have prevented a number of schools from opening, including the large districts of Chicago and Los Angeles. The American Federation of Teachers has taken the unprecedented step of allowing locals to strike if safe conditions are not in place to allow schools to open. [15]

Studying inequities in society that show greater effect in marginalized Black and Brown communities during COVID-19, and the Movement for Black Lives, could empower students to view education as more than subjects they are forced to take without really knowing how they will use them. The relevance of education could be demonstrated. The neglect of both education and public health could be linked to the vast social movement that has grown in response to systemic racism and inequality.

No one can predict when a vaccine will be developed and how effective it will be. Until then, we should continue to demand the conditions that will provide a safe and equal education today and when schools reopen.

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PS:
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[4] Nature, 8 July 2020 “Mounting evidence suggests coronavirus is airborne but health advice has not caught up”.


[6] JAMA Network, 30 July 2020 “Age-Related Differences in Nasopharyngeal Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Levels in Patients With Mild to Moderate Coronavirus Disease 2019 (COVID-19)”.

[7] CDC October 2020 “Contact Tracing during Coronavirus Disease Outbreak, South Korea, 2020 “.


[9] Chicago Sun Times 27 May 2020 “Four in 10 CPS students take part in online learning 2 days a week or fewer, new data shows”.

[10] NBC News, 17 July 2020 “who was jailed after not doing homework”.


[15] AFT, 28 July 2020 “AFT President Confronts America’s Triple Crisis, Says Nothing is off the Table if Authorities Fail to Deliver Funding and Safety amid Virus Surge”.

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