

Kutztown University

## Research Commons at Kutztown University

---

English Department: Research for Change -  
Wicked Problems in Our World

English Department

---

11-12-2020

### The Future of Education as a Wicked Possibility

Eric Busser

ebuss464@live.kutztown.edu

Follow this and additional works at: <https://research.library.kutztown.edu/wickedproblems>



Part of the [English Language and Literature Commons](#), [Nonfiction Commons](#), [Online and Distance Education Commons](#), [Public Policy Commons](#), [Rhetoric and Composition Commons](#), and the [Social Policy Commons](#)

---

#### Recommended Citation

Busser, Eric, "The Future of Education as a Wicked Possibility" (2020). *English Department: Research for Change - Wicked Problems in Our World*. 19.

<https://research.library.kutztown.edu/wickedproblems/19>

This Research Paper is brought to you for free and open access by the English Department at Research Commons at Kutztown University. It has been accepted for inclusion in English Department: Research for Change - Wicked Problems in Our World by an authorized administrator of Research Commons at Kutztown University. For more information, please contact [czerny@kutztown.edu](mailto:czerny@kutztown.edu).

## The Future of Education as a Wicked Possibility

Eric Busser

Distance learning has become an integral part of education recently due to COVID-19, but distance learning was on the rise even before the pandemic. According to a study done by the Babson Survey Research Group, from 2002 to 2012, online enrollment in postsecondary institutions went from 1.6 million to 7.1 million, and had a compound annual growth rate of 16.1 percent (15). When you consider this trend and the recent popularity of distance learning, it's hard not to wonder if distance learning will always be a substitute for in-person instruction, or if it will one day replace it.

The term "Wicked problem" was defined in Horst Rittel and Melvin Webber's seminal paper, "Dilemmas in a General Theory of Planning". The term is used to define extremely complex problems with no definite solution. The future of education isn't a problem, but a possibility that can be looked at through the same lens as a wicked problem. There are countless possibilities for the future of education, and countless factors that affect those possibilities.

Why would we ever want distance learning to replace in-person learning? The sudden change to online learning due to the COVID-19 pandemic probably left a bad taste in the mouths of students and educators alike in regard to distance learning, but we must consider the benefits of a majority online education system. In the article, "Online Education as an Opportunity Equalizer: The Changing Canvas of Online Education" By University of Liverpool researcher, Debra Black, some benefits of online education are: building cultural intelligence, as it allows students from all over the world to interact and collaborate (432), and that it's cheaper than in-

person learning, making it available to more people (435). Another thing to consider is the environmental impact that education currently has. According to Jesse D. Berman from the Division of Environmental Health Sciences, University of Minnesota School of Public Health, there has been a 25.5% decline in NO<sub>2</sub> levels in the US since the pandemic (3). This is a result of less burning of fossil fuels. The main reason that education contributes to that is because of transportation to and from schools. According to the United States Environmental Protection Agency, motor vehicles make up 80% of fossil fuel emissions. There are definitely a lot more factors that went into that 25.5% decrease in NO<sub>2</sub> levels in the US besides the move to online education, but its undeniable that pollution from school transportation alone is making a big environmental impact.

The thing that probably comes to everyone's mind when online education is mentioned is how it's being used during the COVID-19 pandemic. The unprecedented use of distance learning during this time gave it a chance to prove its worth to students and educators who would not have used it under normal circumstances, but the sudden jump to solely online education was a difficult one to make for most students. According to a survey done by the Journal of Medical Internet Research on 195 college students, 71% of them reported an increase in stress and anxiety due to the pandemic, some specific school-related causes for that stress were difficulty concentrating, and increased concerns on academic performance (1). Though there were many other factors that contributed to the negative mental health effects on students during the pandemic, the sudden move to online education likely had a large impact on it. This is an obvious sign that online education, as it is currently, is far from becoming a large part of education overall after the pandemic.

One thing to definitely consider when thinking about a topic as related to technology as online education, is what technologies are in development that could drastically change the topic in the future. The main technology that I see having an affect on online education in the future is virtual reality. Virtual reality has been making its way into the mainstream over the past decade, with many head mounted devices making their way on to the market. While those devices are geared more towards entertainment, there is a lot of research going into virtual reality as a tool for online education, the article, “Cloud-to-end rendering and storage management for virtual reality in experimental education” by Hongxin Zhang, a researcher from Zhejiang University in China, details experimental methods of reducing the computing cost of virtual reality, made specifically to use in education during the COVID-19 pandemic (368). The future of online education looks promising with virtual reality, but there are some things holding back its implementation in online education currently. Some of the current barriers for virtual reality being used in online education are detailed by researchers from The University of Copenhagen: Lasse Jensen and Flemming Konradsen, in their paper, “A review of the use of virtual reality head-mounted displays in education and training” The first being “a lack of content”, since there is currently very little virtual reality software made specifically for education, and making new virtual reality software is expensive (10). The next barrier is the lack of hardware, since most virtual reality devices on the market are either: not built for education, expensive, or require technical skills to operate that most instructors don’t possess (10). Though the current uses for virtual reality in education are limited, it has the potential to completely change how we learn online in the future.

There are countless factors that play into the amount of technology we may see used in education in the future. The pandemic may have given us an idea of online education looks like

as the norm now, but once things get back to normal, online education will still be progressing. The best thing that educators and administrators can do to ensure that this balance is kept over time is to be open to using new technology as it becomes available, but to also listen to and be aware of the effects that those technologies have on students performance and mental health.

In regard to education during COVID-19, National Chiayi University researcher Ruyu Hung says, “the challenge ahead is how to make education...more ‘humane’ and ‘embodied’ by creating a balance between technology use and humanity in education” (42). That statement doesn’t only apply to the change in education during COVID-19, it also applies to the balance between technology and humanity we are eventually going to have to find in education as a whole.

## Works Cited

1. Allen, Elaine Seaman, Jeff. “Grade Change: Tracking online education in the United States.” Babson Survey Research Group and Quahog Research Group. Jan 2014
2. Horst W. J. Rittel, and Melvin M. Webber. “Dilemmas in a General Theory of Planning.” *Policy Sciences*, vol. 4, no. 2, 1973, pp. 155–169. JSTOR, [www.jstor.org/stable/4531523](http://www.jstor.org/stable/4531523)
3. Black, Debra Bissessar, Charmaine Boolaky, Mehraz. “Online Education as an Opportunity Equalizer: The Changing Canvas of Online Education” *Interchange* 16 April 2019
4. Berman, J. and Ebisu, K., 2020. “Changes In U.S. Air Pollution During The COVID-19 Pandemic.”
5. US EPA. 2020. Basic Information About NO<sub>2</sub> | US EPA. [online] Available at: <https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2>
6. Son, Changwon et al. “Effects of COVID-19 on College Students' Mental Health in the United States: Interview Survey Study.” *Journal of medical Internet research* vol. 22,9 e21279. 3 Sep. 2020, doi:10.2196/21279
7. Hongxin ZHANG, Jin ZHANG, Xue YIN, Kan ZHOU, Zhigeng PAN, Abdennour EI RHALIBI. “Cloud-to-end rendering and storage management for virtual reality in experimental education.” *Virtual Reality & Intelligent Hardware*, 2020, 2(4): 368—380 DOI: 10.1016/j.vrih.2020.07.001
8. Jensen, L., & Konradsen, F. (2018). “A review of the use of virtual reality head-mounted displays in education and training.” *Education and Information Technologies*, 23(4), 1515-1529. <https://doi.org/10.1007/s10639-017-9676-0>

9. Ruyu Hung, and Unik Ambar Wati. “‘Digital Home Schooling’ During the Pandemic: Possibilities and Challenges.” *Knowledge Cultures*, vol. 8, no. 2, May 2020, pp. 36–43.

EBSCOhost, doi:10.22381/KC8220206.