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SPA 361

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November 10, 2020

Policy Memo

Research Question

How do a school's demographics affect students' ability to adequately learn online?

Executive Summary

In a year with unprecedented online learning, as well as a larger shift overall towards increasing online learning, it is important to understand the implications of online learning for students, specifically for already disadvantaged students. The existing issues of education inequality are exacerbated in 2020 when learning is online. Adequate online learning is dependent on the structure of the class, instructor involvement, individual instruction, and resources available, to be successful. The group of students most hurt by these requirements not being met is low-income students, students living in rural communities, and minority students. Currently, there is no comprehensive federal online learning policy for this school year, and it is often left up to school districts to fill in the gaps with their student's access to technology. Existing solutions to online learning are centered around student access to technology, and tutoring services to teach common core standards, not necessarily quality student engagement. In order to help students in Washington, DC, I will partner with a nonprofit organization or school class to implement a STEM-based lesson to bolster quality online learning and help keep students engaged.

Background

At the start of the fall 2020 school year, 73 of the 100 largest school districts had chosen remote learning only as their teaching model (Lieberman 2020). Thus, the question of the efficacy of online learning is essential and unavoidable. In order to understand the efficacy of online learning for different demographic groups, it is essential to understand the ideas of access, existing disparities, and quality of education.

Key to access to online learning is access to the internet (Farlie 2014). Without access, there can be no online learning. Currently, 99% of the nations' students have access to the internet (Education Superhighway 2019). There are multiple federal and state projects, as well as private grants, trying to solve the 'digital divide', and while many are successful there are still students who lack access, particularly in low-income or rural families (Lee 2020). As evidence by the 99%, they have been largely successful over the last decade, though work can still be done to bolster internet and technology access. However, it is important to note, access to technology does not equate to learning immediately (Escueta 2020). While it is first important to ensure access for all students, once access is attained, it is important to consider the quality of education.

There are many factors that influence the quality and efficacy of online learning. First, adequate school funding is essential to equitable online learning (Baker et al. 2014). However, because schools in the US are largely funded locally through property taxes, there is not adequate funding for all schools, equating to inadequate funding for online learning. Further, the success of online learning is dependent on the structure of the course and instructor involvement (Gray and DiLorento 2016). In addition, individualized instruction is essential to online learning (Truong 2016). Importantly, most hurt by these core requirements are rural, low-income, and minority students, who either lack access to the internet or access to teachers to adequately

transfer their courses online (Chen et al 2019, Dorn et al. 2020). This illustrates how when schools' demographics are predominantly composed of students from disadvantaged backgrounds, and the school has less funding from property taxes, online learning is less successful.

How these issues of inequality specifically manifest is low-income students are less likely to have resources to have a conducive online learning environment. Essentially, they do not have a quiet space to work without distractions, their own devices that they do not need to share, high-speed internet, and parental academic supervision (Dorn et al. 2020). Without these components, it is much harder to have adequate online learning.

These disparities stemming from demographics can also be illustrated in other ways. When families are living in poverty, parents often have to be less present when working, less active in their child's education, and have fewer resources to advance their child's education (Escueta 2020). This is important because while it seems like there is less need for parental involvement in online learning, research shows that online learning may actually require parents have an increasing role in their child's education (Chen et al 2019). This then hurts low-income students and their ability to learn online. The real-world implications are that teachers find it is challenging to get parents engaged in low-income situations, though increasingly this year, teachers are trying to leverage technology to engage parents and students (Frank 2020).

Finally, it is important to acknowledge that online learning will always be less effective than in-person learning, regardless of demographics. Test scores are lower and students struggle to focus (Lieberman 2020, Atwell 2020). While demographics play a key role in the access and efficacy of online learning, all students are disadvantaged by online learning.

Key Stakeholders

The key stakeholders on this issue are students, parents, educators, and those operating in education research, policy, and advocacy. I had the opportunity to interview two teachers in very disparate districts; Mr. Jamie Atwell, a teacher in one of the wealthiest districts in the nation, and Ms. Sam Frank, in a district where most students are on free and reduced lunch. While both teachers struggle with online learning implementation, it is much harder to execute in an environment when students' parents are less present or essential workers, when students lack access to technology and do not have the support to learn.

In addition to teachers, researchers are key stakeholders in this issue, as they drive policy change. I had the opportunity to interview Ms. Maya Escueta, who has conducted a widespread study on technology in schools. She had insights on the importance of certain teaching resources and methods but acknowledged that not all teachers and administrators can or do access them.

However, the largest stakeholders in online learning are students as it will have tangible impacts on their development and the rest of their lives. Thus, the quality of learning for students is paramount to investigate.

Appraisal of Past Solutions

Large amounts of money have been allocated to the issue of technology in education in the past. Most of it has been focused on in-school internet, computer labs, and teacher professional development (Lee 2020). Between two main federal programs, the Federal Communications Commission's E-rate program and the 21st Century Community Learning Centers program, they have allocated nearly $86 billion in the last 23 years (Lee 2020). While these solutions have done much to reduce the digital divide, they have not completely eradicated it, and they do not actually help improve the quality of education. In addition, many nonprofits

have stepped in with tutoring and resources for students from disadvantaged backgrounds to try to improve the problems of educational inequality.

These programs have only increased in 2020, as more learning is online. It has been a patchwork between school districts, states, private companies, and the federal government (Lieberman 2020). However, importantly, there is no comprehensive national solution to online learning in 2020. The solutions to online learning implementation can be unsuccessful as some students can not use hotspots due to house location, students are unengaged, or some do not even attend class meetings as no parent tells them to, among others (Lieberman 2020). In Washington DC, the DCPS has implemented a comprehensive technology plan for access, but not to ensure quality (DCPS 2020). Overall, past solutions have focused on access to online learning, not quality. While important, new solutions should also focus on quality.

Project Plan

In light of understanding how many low-income students either cannot access quality education or are not engaged, I would like to implement a project that engages students in an exciting hands-on way. I will try to partner with a school class in DCPS or a nonprofit organization like For Love of Children to implement a hands-on learning experience. Particularly, STEM education has been lacking this semester as it is harder to move online. I will seek a grant from the Eagle Endowment to implement my project.

If it is unfeasible to implement a synchronous or asynchronous STEM lesson for students, I will create a website for students to access interactive learning resources. I will create a website with games, projects, and resources to learn about different subjects and topics students are interested in. Right now there are resources in many places, but not a good central pace parents and students can utilize. I will then volunteer my time in tutoring students and helping them use

the website. Overall, I will not be focusing on the issue of access, but rather the quality of education received.

Conclusion

This year it is more important than ever to interrogate the implications of online learning. In order for online learning to be successful, it is essential that students have access to support and resources. Adequate online learning is dependent on the structure of the class, instructor involvement, individual instruction, and resources available, to be successful. The group of students most hurt by these requirements not being met is low-income students, students living in rural communities, and minority students. Further, future solutions should not just be focused on access to online learning, but also quality of learning. This project will seek to help students to successfully and vibrantly engage with online learning. Specifically, I will partner with a nonprofit organization or school class to implement a STEM-based lesson to bolster quality online learning and help keep students engaged. Despite the future of online learning being unknown, we know that online learning will impact students' lives for years to come, so it is important to be critical of how we interact with it and ensure equal access.

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