Equity in Digital Devices: A Review of the Literature

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Introduction

Digital literacy significantly impacts students and their families which heavily influences educational outcomes. The topic of my action research begins with the acknowledgment that the inequity of digital literacy and access to resources such as wifi and electronic devices negatively impact student success. Usually, this lack of access also reflects the socio-economic status or location of a community that exacerbates existing inequities in learning opportunities (Smith, 2024). This analysis will review that many school systems overlook this effect on educational opportunities. This research will inform and influence educational institutions to consider families' digital literacy levels and suggest ways to assess and build these skills. When families feel comfortable and supported, they become more involved. Events like this will increase equity by empowering families to take full advantage of educational opportunities and make informational platforms accessible, closing the digital divide. The work of my job entails our grant objectives, my goals include collaborating with other entities in the school to improve and bring awareness to the current inequities or oversights and influence positive change. Through my experiences in servicing our current 10th grade cohort, I have found that we overlook and disregard the limitations of our students. Ironically, district goals do not align with empowering our students with digital skills (Smith 2024). This states we can bridge the digital divide by taking a multifaceted approach that addresses each dimension of digital access and usage inequity. We must expand access to digital infrastructure, promote digital literacy, skill development, foster partnerships between government offices, companies, and community groups to ensure accountability. There is a need to evaluate the importance of our role as

educators in providing digital literacy. How does limited access to digital devices impact equity in post-secondary educational opportunities for 10th-grade students?

Review of the Literature

Definition of Educational Technology

Education technology has become central to teaching and learning in school districts nationwide. However, there are still significant inequities in access to devices, broadband, and some districts are using technology much more effectively than others, which concludes a national ed-tech plan released on Jan. 22 by the U.S. Department of Education (Klein 2024). Our educational system has big responsibilities to our students, beginning with providing equitable access and resources to all students through digital literacy. Regardless of post-secondary pathways, jobs require digital skills, and students who lack them will struggle to compete in the workforce. It falls on us, educators and administrators at the secondary levels, to push, prioritize, and support our students through this process (Devrim Akgunduz, & Aysegül Kinik Topalsan, 2024). As people with higher socioeconomic status continue to gain better access to digital technology, digital skills, and broadband, they also gain access to a wealth of information, educational resources, and other opportunities (Smith, 2024).

Benefits of Digital Access

Knowledge is power, and access to digital devices can be the key to unlocking a student's potential. The ability for a student to access their information, such as grades, attendance, and GPA, which empowers them to take an active role in owning their learning by setting goals, and identifying strengths and weaknesses, while making informed decisions. Giving students access

to resources through digital devices promotes equity and can help close achievement gaps and support those with disadvantaged backgrounds. It can boost academic performance by providing study materials or online tutoring resources. Having the ability to optimize basic classroom digital resources such as Google Classroom, Zoom, Kahoot!, Edpuzzle, Flipgrid, etc. can increase classroom engagement. In addition, improved test scores are another benefit, given the availability of test prep and college readiness materials. Providing students access to digital resources and information promotes critical thinking and problem-solving skills (KewalRamani et.al., 2018). Digital communication opens up opportunities at our fingertips which allows students to have access to digital devices, can email teachers or counselors and interact daily at all times. They can also communicate with peers and be more involved in group work. Accessing updates in real-time can promote greater accountability by encouraging students to address issues, such as grades or attendance, in a timely manner.

Digital Access to Increase Educational Opportunities

According to the American University School of Education, the benefits of technology in education are multifaceted. They affect both teachers' abilities and students' performance inside and outside the classroom, preparing them for 21st-century challenges. Through opportunities for collaboration with not just the teacher but with each other, this offers more of a personalized learning experience. The ability to learn at your own pace through hybrid learning has proven more effective with guidance from an adult, in this case, the teacher (Molnar, G., & Sik, D., 2019). Leaders and administrators should find out where their teachers stand in their ability to provide these services for our students and assist them in developing skills to do so more effectively.

Barriers to Implementing Equal Access to Digital Devices

I work in a low-income, low-literacy, low-technology district that was awarded a GEAR UP grant, and my current role is that of a GEAR UP Facilitator. Although I am not a classroom teacher, I directly work with students and their families almost daily. The vast majority of the students whom I serve are first-generation, and one of the biggest struggles I face is the need for digital literacy in our district. Serving these students and their families is challenging when they have minimal access to devices/tech support (Hertlein, K. M., & Webster, M., 2008). This "digital divide" is often most pronounced among students from low-income families or rural areas.

Summary

After a review of the literature, there is no doubt that access to digital devices contributes positively to post-secondary educational opportunities. In fact, the benefits go much further beyond that. Digital literacy opens up doors for individual development by equipping students with the skills needed to thrive in a technology-driven world. It is the responsibility of the school to nurture these skills that will enable students to achieve personal and professional advancement. This includes the more critical role of ensuring fairness and equity in providing resources for developing students' digital literacy. Without access to digital devices both at school and at home, this will be difficult to achieve. Prioritizing fairness and equity in schools empowers all students to succeed in the digital age, ensuring no one is left behind due to systemic barriers.

This Review and the Field of Education

As we have read, there are advantages and barriers to digital devices, but with this knowledge comes the power to improve, adjust, and empower our field of education. Awareness of this oversight is step one, assessment is step two, and an action plan is step three. We must find ways to create more equitable opportunities in digital learning for our students. ISTE Standard 3.1.b Ensure Access to Meet Student Needs: Leaders ensure access to technology, connectivity, inclusive digital content, and learning environments that meet the needs of all students (International Society for Technology in Education, 2024). I would like to work with others to find easy and effective ways to simplify students getting their hands on devices and using them daily to build digital literacy skills and improve student success. I also want to bring awareness to the need for new standards to be enforced to ensure all students are considered regardless of academic standing. Beyond programs for students, the district offers a Latino family tech night, which educates parents on how to support their students with technology (Lcom Team, 2023).

Strengths and Weaknesses of this Body of Literature

According to Terada (2020), Teachers seek out educational technology, in fact, because it "can have considerable positive impacts on student performance," according to a 2016 study—improving test scores and allowing teachers to assess student achievement more efficiently. Technology has revolutionized education by offering incredible learning opportunities, but it also brings challenges, especially regarding accessibility and equity. The 2024 National Educational Technology Plan is a forward-thinking approach to reframing and realizing the potential of educational technology to enhance the instructional core, reduce achievement gaps, and improve student learning in our schools (Merod, 2024). When policymakers look at the "big picture," education moving forward through technology seems so

effortless and sensible, but when you are in the forefront attempting to implement these ideas, hitting brick walls with the details and obstacles, it is not that easy at all. Without access and guidance to use technology effectively, they struggle to fully benefit from digital resources and lose out on educational opportunities.

Focus of the Current Study

In our district, only some students are provided with a device, only those taking college courses. Aside from that, not all classes are equipped with classroom sets of Chromebooks, at least during class time. Because of budget restraints, teachers are discouraged from assigning online work. How are we preparing our students to be successful after high school? This injustice affects our students beyond the classroom. The digital divide impacts the employment divide, creating barriers for people lacking digital access to fairly compete for employment opportunities. This includes being able to search for jobs, apply online, and participate in remote work opportunities. Additionally, disparities in digital literacy and skills widen the gap in employment prospects because most jobs require proficiency in digital tools (Smith, 2024). It will take more than just this article to induce change. It will take every one of us advocating for our student's needs in each of our respective fields.

The digital resource I plan to share will be Loom, a screen recorder that can be used to create and share videos for teaching and learning. This is a more friendly step-by-step guide where students can hear instructions and follow along to see exactly what they are asked to do. If taught, students can record themselves reading, writing, or solving a math problem to share with teachers or others for feedback. Flip.com, where students can record themselves and receive immediate feedback through comments, and Scribehow.com, which breaks down your screen recording into step-by-step directions in a PDF that can be translated into other languages if

necessary, are other useful options to support students. These collaborations and support will help build students' digital literacy skills and ultimately increase their academic success, closing the gap that creates a current inequity in education.

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