The Internet and College Access: Challenges for Low-Income Students

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The Internet has generally been viewed as a means for creating "digital opportunity" for America's students.[1] Students across the K-16 continuum are using the Internet to enhance their learning and educational prospects. In the early 1990s, it became clear that incorporating computer and Internet use into classroom learning and the daily lives of children in general would be essential to their growth as citizens of the world. At that time, Internet connections were available in only 35 percent of schools; less than 15 percent of households had computer modems. Since then, the increase in access to the Internet in schools has been significant. In 2003:

- 93 percent of public schools offered Internet-connected computers in at least one instructional room; and,
- 90 percent of students had opportunities to use a computer in school.

Similar increases in computer and Internet access have been reported at home as well. In 1994, only 36 percent of households with children, ages 7 to 17, had Internet-enabled computers. By 2003, 77 percent of such households were computer-enabled, with 68 percent of children from the ages of 7 to 17 living in households with Internet enabled computers. After reviewing these positive changes, the reader may be wondering, with Internet access available to students at school and at home, how there can be Internet-related issues in accessing postsecondary education. This article answers that question in a few ways. First, it presents a statistical picture comparing computer and Internet access for low-income students and students of color—the populations that are least represented in higher education—to that of high-income students. These comparisons are particularly important in light of the fact that a low-achieving, high-income student is more likely to go to college than a high-achieving low-income student.[2] As this article will show, low-income students are less likely to

have access to the Internet than their higher income counterparts. With Internet access becoming a necessary tool for college admission and financial aid applications, this disparity in access is becoming increasingly disadvantageous for low-income students. Second, using qualitative research, the article will provide case studies that share how low-income, urban high school seniors experience the Internet as part of the college selection, application, admission, and financial aid process. These case studies will reveal some of the difficulties that low-income students encounter, thus shedding light on significant problems that have been insufficiently explored in previous research on how college applicants use the Internet.[3] Finally, the article recommends strategies for improving college access via the Internet. Before we explore these topics in detail, let us consider how and why students use the Internet as part of the college application process.

Establishing the Importance of Internet Access for College and Financial Aid Applications

College-bound students use the Internet to engage in any number of college application tasks. High school sophomores, juniors, and seniors are directed to the College Board and American College Test websites to sign up for PSAT, SAT, ACT, and Advanced Placement tests. Students "virtually visit" college websites and increasingly make decisions about institutional fit via the web. They may also go online to request more information about the college in which they are most interested, or participate in a live web chat with current students at that institution. In their final year of high school, students will most likely be required to apply for college admission via the Internet. Students seeking financial aid and scholarships may register for any number of scholarship clearinghouse services online. These students may also apply for federal and, in some cases, state financial aid as part of a multi-step online process. In addition, it is becoming commonplace for students to learn of their college acceptance via the web. All four-year public institutions in California, for example, ask that students retrieve their college admission decision by visiting a password-protected notification website. Upon receiving acceptances, they will be directed to return to the Internet to learn more about their housing assignments and financial aid offers. Later, students may use the Internet to register for classes. Students and college counselors alike realize that the Internet is becoming an indispensable means of communication for college admission and access.

What does this mean for schools that do not have adequate computing services, and what happens to the students who attend these campuses? Recently, as part of a research study on financial aid and college-going, I was able to compare college counseling services at two private college preparatory schools to those at two public magnet college preparatory schools in Southern California.[4] Admittedly, the comparisons between these two schools may seem "too perfect." Of course there will be differences between public and private high schools' abilities to provide student services, given that private schools may have more dollars per pupil to spend and can create their advising services to meet the unique mission of their institutions. Nevertheless, all high schools, private and public, are fundamentally equivalent in that they recognize that one aspect of their mission is to prepare students for college. Further, students must academically qualify for admission, prepare postsecondary plans, and show evidence of parental support. Both the private and magnet schools require that students and parents sign an academic commitment contract. However, while these schools were comparable in size and institutional mission, the college advising services were vastly different. The following data highlights these differences.

The research protocol for the study required that I meet with the college counselors and tour the college advising facilities at each school site. As expected, the college advising facilities at the public schools were paltry in comparison to those at the private schools. At one public school, computers were outdated, linked to a printer that rarely worked, and blocked students from accessing their free, Internet-based email accounts. There were three of these computers to serve a student population of 1,500. At one of the private schools, there were numerous computer banks providing Internet connections to students throughout campus, as well as functioning printers and college counselors to provide computer assistance. When speaking about these resources, the counselor at this private school explained that the school views them as essential for college planning and preparation:

> At this school, using the Internet for college choice, admission, financial aid, and enrollment is just a given. We expect our students to use the Internet to be fully aware of their options. In fact, last year, we instituted an individual college planning web page for each student, and we have had our parent college planning website going for a while. If there is a school that I really want a student to see, I can just add a new link to their personal page.

In this college counselor's view, the college choice, admission, financial aid, and enrollment process was tightly coupled to the whole experience of going to college. Counselors at the public schools had fewer resources. One public school counselor described her Internet capabilities in the following manner:

> My idea of using the Internet for college-related activities is just to find ways to make sure the four computers in our work area are running. I haven't been trained on a lot of this stuff, so to me, keeping them going has to be enough.

Unfortunately, low-income students of color were majority populations at both public schools, while middle- to upper-income White and Asian students comprised the majority populations at the private schools. While these student populations experience different schooling and preparatory environments, they are competing for admission and financial aid from the same postsecondary institutions.

Colleges and universities have continued to turn their attention to the Internet as a marketing tool for admission and a portal for students to navigate financial aid, housing, and registration processes.[5] The advantages of real-time information, expedited admission, financial aid, and housing information via the web are many. Students and parents are able to access college websites from the convenience of home to receive important updates about their individual college admission and enrollment process.[6] While these services are terrific for many of the affluent well-qualified students they hope to attract, complicated websites that require high speed Internet connections add another barrier to access for student populations that have been historically underrepresented in postsecondary education.

Past research suggests that low-income students' transition to online processing has been slow, cumbersome, and in many cases, acts as a deterrent for low-income students with little access to Internet technologies.[7] In fact, some advocates for low-income students and students of color are concerned about the potential for Internet resources to become "engines of inequality" for those student populations.[8] Increasing the number of computers in low-income schools is not a guarantee of increased computer use[9], especially in schools where students are not allowed to use the computers or students and school

staff are not trained. Even though there is evidence of an increase in access to web-linked computers in low-income schools, quantitative and qualitative problems persist.[10]

Access to the Internet in Schools, Home and Community: A Statistical Perspective

In the opening section of this article, statistics about the increase of computer access in schools and homes were presented as a means of demonstrating the enormous change in digital opportunity for America's youth. A closer consideration of this "good news"—focusing on computer and Internet access for low-income students and students of color—tells a much different story. Table 1 offers a summary of computer and Internet access for students living in households with incomes of $15,000 or less, versus students living in households with incomes of $75,000 or more.

TABLE 1. Computer and Internet Access: Differences by Income

Income level	Computer at home	Internet access at home	Broadband at home
Above $75,000	96 percent	93 percent	51 percent
Below $15,000	45 percent	29 percent	7 percent

SOURCES: National Center for Education Statistics, *Internet Access in U.S. Public Schools and Classrooms: 1994- 2003.* Washington, DC: U.S. Department of Education (2005); U.S. Bureau of the Census, *Current Population Survey*, (September 2004).

The data presented above highlights how differences in income correlate with great disparities in access to computers at home. Less than 50 percent of low-income students have a computer available to them at home to complete school assignments, much less to access the Internet. There are even greater gaps in access to the Internet. Less than 30 percent of low-income students have Internet access at home and only 7 percent have a high speed Internet connection. There are also apparent gaps in access when comparing home resources available to Asian, Black, Latino, Native American, and White students. Table 2 reflects these inequalities.

TABLE 2. Computer and Internet Access: Differences by Race/Ethnicity

Race/ethnicity	Computer at home	Internet access at home	Broadband at home
Asian	86 percent	75 percent	33 percent
Black	56 percent	43 percent	14 percent
Latino	58 percent	44 percent	14 percent
Native American	58 percent	41 percent	13 percent
White	87 percent	80 percent	32 percent

SOURCES: National Center for Education Statistics, *Internet Access in U.S. Public Schools and Classrooms: 1994- 2003.* Washington, DC: U.S. Department of Education (2005); U.S. Bureau of the Census, *Current Population Survey* (September 2004).

The data presented in Table 2 reveals the chasm of difference in access to computers at home among different race/ethnicity categories. There is on average a 30 percent difference in computer ownership between Asian and White students and other racial/ethnic groups. The disproportion grows to an almost 40 percent difference when comparing home access to the Internet. Though no group has more than 33 percent of its population with broadband access at home, Asian and White homes are still more likely to have this service than all other homes.

The data displayed in this section reveals a significant divergence in access to the Internet when viewing usage by income and access at home. Upper-income White and Asian children between the ages of 7 and 17—the students most likely to go to college—benefit most from enhanced college admission and financial aid services offered online. These students use high- speed Internet connections in their homes to access the information they need. This is an interesting result considering that *all* students are expected to use the Internet as a means of engaging in the college application process despite any barriers they may face in accessing the Internet. How do low-income students and students of color navigate the college-going and financial aid process online? The qualitative data in the next section of this text sheds some light on this issue.

Access to the Internet in Schools, Home, and Community: What the Students Say

Despite immense challenges, there are motivated low-income students and students of color who are able to effectively navigate the college and financial aid

process and enroll in four-year colleges and universities. The following three case studies provide a snap-shot of the types of roadblocks that three college bound, low-income students of color faced while navigating the college and financial aid processes online. The quotations presented here are drawn from interviews and in-depth case studies of low-income twelfth grade Latino and Black students who participated in one of three recent studies on college going and financial aid in urban Southern California.[11] Each participant in this study had plans to attend a four-year institution and apply for state, federal, and private financial aid. Some of their stories are shared below, using pseudonyms to maintain confidentiality.

Yvette and her twin brother, Jaime, attended a low-income school that served mainly Latino and Southeast Asian immigrants just southeast of a large urban city. She had completed six Advanced Placement courses and maintained a grade point average of 3.7. In the fall of her senior year, she applied to four University of California campuses. These applications were submitted online:

> It was a little harder at the beginning because I had to set up a password and then fill out all of the specific information about my transcript. I was almost finished when I had to give up my turn at the computer to the next person. There was a problem with saving my work and so I had to do it all over again. That would happen to me a lot, the running out of time part, I mean.

When asked to explain why she would often "run out of time," Yvette explained her school's computer access policy:

> We can only use the computers for college-related things when the counselor is in the office. We only have one guy for the whole district, so part of Tuesday and part of Wednesday are our days to get in to use the computer. When we are close to deadlines, sometimes people stand in line for so long to apply [for college admission or financial aid] that they give up.

When asked about using the computer at home, this young Latina offered a response that was consistent with the statistics presented here: "We have a computer but it doesn't have the Internet. We are going to get it, but only if Jaime and I get into college. We'll get jobs and buy it for the house."

Just a few miles away, at another high school with a low-income primarily Black and Latino student population, Michelle, the senior class president and a young, self-described "African American scholar," explained her strategy to access the Internet for the college admission and financial aid process:

> Since I am senior class president, I get to have a service period where I can hang out in the office or the student activities room. There are computers in there so I try to do my applications there. On a good day, I will get a half an hour to look at things, or try to fill things out. That means that I only do bits and pieces, but I get it done. I make my deadlines, so far I have.

On the surface, this is a good idea. Michelle's behavior is particularly resourceful considering that her college center is closed during morning and lunch breaks because the college counselor is responsible for yard duty during these times and responsible for the safety of college center computers at all times (a common practice at many of the schools in this district). Michelle and her classmates' only times to use the school computer would be before or after school and at the discretion of the college counselor. While this plan may seem like a good one to meet her immediate needs, there are potentially detrimental effects for her college acceptance options. Because she is taking two "service-related" courses, she is only taking the minimum senior year requirements to graduate from high school:

> Yes, I had to make choices. Really, my heavy academic courses are English, Government, and Environmental Sciences. Those are my college preparation classes. But I needed to make sure that I would have access to a computer and a printer to get this done. I have a friend at [a four-year institution] right now, and she barely got there because she had problems with meeting deadlines because she turned in most of her requirements on paper. I didn't want that to happen to me. I will not be able to apply to [a top 50 four-year university] after all, but I know I will still be able to get into a good school.

Michelle's tactical approach may enable her to attend college, but it did negatively affect the range of colleges to which she applied and, thus, her educational opportunity. Because she had to choose between taking college-prep classes

and allowing time to use the computer at school, she could not take some of the classes that would have improved her chances for acceptance at top universities. Her counterparts with home computer access who attend schools with more readily accessible computers did not have to make such choices.

Compared to Michelle and Yvette, Bradley had fewer college options. With a 3.0 grade point average, he shared that he knew he was barely eligible for admission to a California public institution "without having to take the SAT." Bradley was not as trusting of the college admission and financial aid process as Yvette and Michelle were, so he was a late-comer to using the Internet for college access and admission purposes:

> I didn't apply for any of my colleges online. At that time, I wasn't sure how to do it and I didn't know who to ask, so I just did it on paper and then made a copy. But then I got a post-card from the school saying that I had to submit information about me online, so I had to figure it out.

In this case, Bradley's choice to complete his college admission process on paper was taken away by a school policy that required him to submit additional information via the Internet. Because Bradley's family has no computer at home, Bradley needed to either use computers at school or find another means of computer access:

> I can't use the computer at the school because I work right after school and it is usually closed during [break] and part of lunch—that wouldn't be enough time anyway. So a couple of times, I went to an Internet café place and then another time I went to my friend's house. The part that makes it tough though is that I don't always have a place to check my email.

The inability to check email on a regular basis was a common problem for students in similar socioeconomic and schooling situations. Although Bradley was able to find computer resources to meet main deadlines, he was unable to access resources on a regular basis. As a result, he almost lost out on financial aid:

I didn't check my email for like a month and there were four emails reminding me to check [my four-year institution's] web portal system. So because of that, I almost missed out on getting financial aid. I needed to submit my dad's tax returns and I didn't know it until really late.

Although Bradley did a good job of making sure that he met key deadlines, his lack of knowledge about the importance of the Internet in his college admission and financial aid process almost cost him a spot in the class of 2009 in his school of choice. Though he gained admission, he would never have been able to afford the cost of attending a four-year institution without financial aid.

The examples presented in this section detail the difficulties of engaging in Internet-based college and financial aid application processes when students do not have consistent computer access at school or at home. For the students who participated in these research projects, it also seemed that even in cases when computers were available, informed and consistent support from college counselors or others was needed but unavailable. Regardless of these extant adversities, all students are compelled to use the Internet as a means of engaging in the college and financial aid application process regardless of any obstacles they may face.

Conclusion

Based on the statistical data presented here, low-income students and Latino, Black, and Native American students have much less access to the Internet than their upper-income, White, or Asian counterparts. A school system may claim that 100 percent of K-12 institutions offer computer access because they have computers on campus, but the experiences shown here indicate that these machines are not well maintained or readily available. Clearly, colleges and universities cannot and will not wait, nor will financial aid systems put technological advances on hold while our neediest and most underserved students access college. In what follows, I offer five interrelated recommendations for how we might address the concomitant issues that low-income students and students of color face while using the Internet to access college admission and financial aid resources.

First, students need to have a clear understanding of the timing and process of college admission and financial aid acquisition from beginning to end. Completing an application for admission is just the first step in the process of applying for college, just as completing a financial aid application is simply one of the "starting point" activities in the process of acquiring the funds for college, so students should not be led to believe that completing applications is an ending rather than a beginning. Instead, counselors should make sure that students

understand what tasks are required—and what computer resources should be used to complete these tasks—at every stage of the application process. Students need to be encouraged to use the Internet to obtain information about colleges and financial aid, to begin the application process online instead of filing paper applications, and to use email and college Internet resources to stay abreast of where they stand in the application process. Particularly for students who are relatively unknowledgeable about the college application process and relatively inexperienced using computers, assistance from trained counselors may be required at every stage of the process.

Second, college counselors should devote all of their time to counseling instead of being burdened with additional responsibilities. Requiring college counselors to take on other responsibilities prevents them from providing the services that they were hired to provide to the college-going students in their schools. Also, high school administrators should support college counselors in their training goals by allowing release time and funding to attend college and financial aid information sessions led by groups such as the National Association of Student Financial Aid Advisors and the National College Access Network.

A third recommendation, which is closely related to the one above, is that students, parents, and counselors should be provided specific training for using web-based financial aid sites. As more and more colleges and universities move to web-based financial aid processes[12], all college applicants, and also the parents and counselors who support them, need to learn how to use online resources at every stage of the application process. While some affluent students may already possess this knowledge, training is necessary for most low-income students and anyone who assists them in the application process. This training should include the actual use of a computer with live Internet access. And the training should be provided early in the process: the day before a priority application deadline should not be the first time that students, parents, or counselors see an application website. Such suggestions are obvious, and yet, they should not be made without also understanding that these changes will only become feasible when schools acquire more and better technology and personnel.

Fourth, colleges and universities should assume more responsibility for providing the training and resources that low-income students need for better access to higher education. Too often, the responsibility for providing Internet

access and training is placed solely on America's high schools. However, some of these schools cannot keep pace with the technology demands that are posed by higher education's increased reliance on online communication. Colleges and universities, either working alone or in collaboration with high schools, can provide training that will improve low-income students' access to higher education. For example, a college might sponsor a financial aid application event on a Saturday afternoon at a local low-income high school or community center. The resources provided at this event could include trained financial aid counselors and temporary banks of web-enabled laptops and printers to be used during the session. A similar approach could be used for a college application night. Either event could be organized by one institution or a group of institutions who recruit and enroll students in that particular region.

Fifth, more nationally based research with up-to-date surveys on computer use in and out of school should be developed. To be sure, useful research related to low-income youth and Internet use does exist.[13] Through this research, we are beginning to understand how this student population uses computers and the Internet to enhance its social and educational experiences. However, there remains a need for a study that considers how students use the Internet to access college and financial aid information. Also, research still has not captured the differences in support and training that further perpetuate a digital divide. Neither of the main research reports on use of the Internet cited here[14] focuses on college-related tasks. This research and knowledge gap can be closed with research that includes an emphasis on college-going processes. Quite often, I observed empty computer labs in one area of school and broken, inaccessible computers in the college counseling area. Quantitative and action-oriented research that traces students' use of the Internet for college and financial aid information over time can illuminate when, how, and why students choose to use the web for these purposes. The timing and frequency of students' access to the Internet for financial aid purposes can yield different levels of competency and different opportunities for aid.

One final possibility for future research is a close examination of students' use of search engines and sites that provide resources for scholarships and other forms of financial aid. A study that traces the individual experiences of students who actively utilize these sites might create a stronger picture of how these sites have influenced and can continue to impact students' financial aid options. Such in-

vestigation can be carried out at the college and university level in collaboration with students, parents, and staff in secondary schools.

Research shows that over the past decade, there have been significant increases in access to the Internet for all students, regardless of income.[15] More students and families own home computers than ever before, and more students and families are Internet connected as well. On the surface, the Internet access picture looks good and is only getting better. Nevertheless, a digital divide does continue to exist. There are divisions based on race, socioeconomic status, and educational levels. Low-income students attend schools in which their opportunities to use the Internet for college-related activities are minimally supported, or, in some cases, stymied. The need to use the Internet for college-related tasks will not subside. More postsecondary institutions will rely on the Internet as a form of communication, recruitment, and retention. In some cases, secondary schools are able to keep up with the ever-changing advances in technology, admissions, and financial aid. In other instances, some schools fall woefully behind. Rather than focusing primarily on the high school as the site of a solution, collaborative efforts between high schools, colleges, and state, local, and federal college-related agencies and organizations may provide a better answer. Pooling resources to accommodate for disparities between low-income high schools and their high-income counterparts may lead to increased college opportunity for our nation's neediest students.

ENDNOTES

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