

The Digital Divide and the Participation Gap: Challenges to Innovation

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Financial, social, and market forces drive us to continually innovate and experiment with technology that will allow us to better communicate, collaborate, and learn with our students. But the spectres of inequality and the lingering impact of personal choices can complicate or come in to direct conflict with our desire to innovate and our obligation to serve all of our students. The complications and conflicts are subtle yet it is increasingly important to anticipate, recognize, and overcome them as we balance technological innovation with social justice and equity.

Access and Use

Digital Divide

Although few of us discuss or focus on it, the digital divide still exists. There are still large numbers of Americans who do not own computers or have Internet access at home. Those who do not have Internet access at home are disproportionately underemployed, less educated, and Black or Hispanic (U.S. Census, 2009b). Even when considering Internet access outside of the home, those same disparities still prevail (Horrigan, 2009; U.S. Census, 2009a).

The digital divide still persists on many college campuses as many students do not own or use their own computers. The 994 institutions that participated in the 2007 EDUCAUSE Core Data Service reported an average of 65.1% of their students use their own computer implying that nearly a third of their students do not. There are significant differences in the rates of computer ownership between the different types of institutions (Carnegie Basic classification) and public/private institutions, differences that seem to echo the larger patterns that exist in American society. More affluent institutions – those granting more advanced degrees and private institutions – report significantly more students using their own computers (Hawkins & Rudy, 2008).

Participation Gap

Even students who have had access to technology have had different experiences with it and have thus gained different skills, predilections, and comfort levels with different technologies. Viewed through a lens of social justice and equity, this “participation gap” (Jenkins, 2006), has forced us to reconceptualise concerns of unequal access and use away from the simplistic “have” and “have not” dichotomy of the digital divide to a more nuanced understanding embracing not just mere access but differing types of access. Since the amount of time for and the environment in which one uses technology shapes ones uses and understanding of technology, students who come from backgrounds where they had less access to the Internet use and view it differently compared to those with significant or unlimited access. Qualitative researchers have documented how this plays out with American teens: Those with computers and Internet access in their homes use tools such as Facebook and MySpace differently than teens who access the Internet from different locations such as school or the public library (boyd, 2008; Ito et al., 2008; Weber & Mitchell, 2008).

The experiences of tribal colleges and their students serve as a useful and interesting example illustrating the complications posed by these two forces of access and use. The financial challenges faced by these institutions and their surrounding communities have slowed access to computers and

the Internet, preserving and perpetuating the digital divide many of us choose to ignore. So for some students at these institutions, mere access remains a significant challenge as they can not afford computers or Internet access at home. Even for those with Internet access, that access is provided primarily at school and is mediated by cultures that stress oral and visual traditions. In some cases, those traditions limit the sharing of cultural information and images on the Internet (Stuart, 2008). Like all students, they bring a unique understanding of and relationship to technology to their college experience, shaped by the amount and type of access shaped by historical, financial, and cultural forces. The different understandings of and experiences with technology may not always be best conceptualized negatively as a “gap” but those difference certainly exist.

Access and Use Intertwined

These two dynamics – unequal access to and different experiences and understandings of technology – exist on every campus and make it challenging for campus administrators and faculty to rely on technology to interact with all students equitably and consistently. Moreover, the technologies colleges and universities choose to employ and for which they allocate resources have subtle and varying consequences for different groups of students.

A few examples demonstrate how these dynamics challenge our ability to effectively innovate. Given its rapid growth among both youths and older populations, it is natural and understandable that campuses are seeking (officially and unofficially) to use Facebook as a means of communication with current students, potential students, alumni, and other constituents. However, the divisions that often run through American society – class, race and ethnicity, and education level – also run through the digital landscape. In particular, Hispanics and youths whose parents have less education are less likely to use Facebook and more likely to use MySpace (boyd, 2009; Hargittai, 2007). Campuses that rely heavily on Facebook to interact with students and others thus risk missing a portion of their audience, inadvertently excluding homogenous and historically underserved groups.

Similarly, the visually-impaired can easily be left out as we make ever-increasing use of visual media and devices. The current interest in electronic textbooks, driven in part by dreams of economic savings and exemplified by California Governor Schwarzenegger’s recent decision to employ electronic textbooks throughout California’s high schools (BBC, 2009), poses significant challenges for colleges and universities. Arizona State University is experiencing these challenges first-hand as administrators navigate a lawsuit brought by the National Federation of the Blind and the American Council of the Blind over the university’s use of Kindle electronic books. The groups allege that the devices are not sufficiently accessible to the blind (Blumenstein, 2009). This lawsuit was foreshadowed by negotiations between book publishers and Kindle manufacturer Amazon that resulted in significant limitations to the device’s ability to automatically read books aloud (Reuters, 2009). The conflicting issues raised by electronic textbooks – financial savings, convenience, access, etc. – illustrate the challenges of using rapidly-changing technologies to serve heterogeneous groups who are promised and deserve equity.

Recommendations

Learn about the Students on Your Campus

Your institution’s orientation, institutional research, or IT staff may regularly survey your students to ascertain their technology ownership, habits, skills, and desires. The central IT division at the University of Virginia, for example, regularly surveys incoming first-year students and this knowledge, combined with other data, has allowed UVa to confidently (but not without controversy) plan to scale back the size and composition of their general purpose computer labs (University of Virginia, 2009). Additionally, it may be relatively easy to gather this information using existing

processes and instruments; in fact, some commonly-used survey instruments such as the CIRP Freshman Survey and the College Student Experiences Questionnaire (CSEQ) already ask questions helpful in gauging these traits. Finally, some of these data may be automatically or routinely collected by your institution's network administrators or computer security staff, particularly for residential students who may be required to register their computers and network devices. Knowing about students' use will help identify which students might be underserved and where resources might be saved or reallocated.

Don't Rely too Heavily on One Technology

Even on the most affluent campuses, students will own, have access to, and use different technologies as influenced by economics and personal preference. Additionally, there are often subtle historical and cultural artifacts that affect whether and how students use and understand technologies. All of these forces make it difficult for campuses to rely heavily on one particular technology and consider it universally accessible, useful, and understandable. For example, using Facebook as the primary means of communicating with students, such as advertising campus-sponsored events or services, may only be reaching a limited group of students. Worse, you may be inadvertently excluding groups of students that may already be underrepresented or overlooked.

Understand that Using Particular Technologies May Have Subtle and Undesirable Effects or Impacts

The complexities of serving large groups of students with different backgrounds with and understandings of technology raise the possibility that your use of particular technologies may have subtle and undesirable effects. Arizona State University may have had the best intentions in adopting the Kindle but the impact on visually impaired students was both foreseeable and tragic. Similarly, relying heavily on online technologies to allow new incoming students to connect with one another before they arrive on campus may leave students without access to the Internet during the summer before arriving on campus in an awkward position as they arrive in a new environment with most students already socially connected.

Conclusion

Our decisions to employ technology should support and be in harmony with our ethical and legal imperatives to serve all of our students. Just as they bring different cultural and intellectual experiences and expectations, each of our students brings different experiences with, expectations for, and understandings of technology. Understanding those experiences can help you balance innovation with access and equity in an increasingly complicated but still uneven technological and cultural landscape.

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