"It's an internet phone, but I don't have internet": Students Using Technology

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Abstract:

Despite the persistent image of the digital native, not all college students own and use information and communications technologies to the same extent. At the same time, colleges may increasingly use technology to address budget and restructuring pressures. Student voices add detail about the college experience to inform faculty and administrative decisions about instructional technologies. During a multiyear study we learned how technologies enabled and constrained students' academic work.

Speaking Notes:

Today we're going to speak about results from our study of undergraduates at CUNY, and specifically about the ways that students use technology in support of their academic work. As context, technology decisions at colleges and universities are not typically made by students, though they are made for students. These decisions may be made in response to perceived problems such as overcrowding in computer labs, pedagogical trends like students' word processing and creating PowerPoint presentations, or the availability of new technologies such as ereaders, MOOCs, and others. The data that is available from surveys may represent what students say they need or want, yet students are under constraints that faculty and administrators may not be aware of, constraints that affect their engagement in their academic work, constraints that are not always apparent in surveys. Our study allowed us to get a glimpse into the student experience of using technology -- including the classroom, library, computer lab, and campus, which we sometimes see, as well as at home and on the commute, which we usually don't see.

Undergraduate Scholarly Habits Ethnography Project

In our study we looked at students as students *outside* of class. We used ethnographic methods (qualitative research) to get at how students make choices, and to find out what is meaningful to them in their days as students.

Student Tech by the Numbers

There is survey data relevant to our study, and these surveys suggest that overall CUNY students have less access to technology than do college students nationwide. Data from the Pew Internet & American Life Project collected in surveys in 2010 surveys shows nationwide technology access for U.S. college students from four-year institutions and community colleges. CUNY data from the Student Experience Survey collected in 2010 and 2012 is a useful comparison. Note especially the numbers for broadband access at home, which seems to have gone down for CUNY students at both senior and community colleges between 2010-2012. Also note the small percentage of CUNY undergraduates with no access to the internet off-campus, and remember that while this percentage is small -- 3% of senior college students and 7% of community college students in 2012 -- CUNY serves over 250,000 undergraduates, so that's a sizable number of students.

So again, while we do get useful information from surveys, we learned more about students' lived experiences from our research.

What did we learn from students?

The Student Experience
Students need to and do use technology for their academic work. The students we spoke with were generally enthusiastic about using technology in their academic (and non-academic) lives. However, they often felt constrained by access, both on-campus and off. As this map of a typical day depicts, our students are busy commuters. We heard from many students that they wanted to make efficient use of space and time during their travels, but of course not all technology is usable on the commute.

Student Study Locations
We should note that when we use the term study here we mean any kind of academic work outside of class time. And you can see that students shared many, many locations with us in which they studied, either by preference or because that was the space available to them during the time they had. On campus, most students used the library (for a quiet and scholarly environment), computer lab (for access to technology, especially printing). Students who preferred to study at home cited a variety of reasons that centered on comfort and customizability. And students who were able to work while commuting within the constraints of the commute, did so.

Essential Technology
Almost every student we spoke with had at least a cellphone (though we did meet two Hunter students with no cellphone by choice; they relied on campus kiosks to check email and chat during their days at school). Many students did not have smartphones, or had a smartphone but didn't pay for a data plan so did not use the internet on them (as the student quote in our title refers to). Some students had multiple phones and used them in different ways-often as strategies related to running out of funds for their phone service: one student described a second "flip phone" to load up with pre-paid minutes when his other phone was out of minutes, and another told us that her family in St. Kitts family pays for the data plan on her internet phone (because it is less expensive for them to do so). We also found many students cobbling together access with multiple devices: for example, this photo of a portable game player, camera, satellite radio, and phone (rather than one device for all). Others told us that they had a "dumbphone" but used an iPod Touch for wifi access on campus. And students reminded us that low tech tools are important too: the humble backpack, essential to the commute, and eyeglasses were visible in many student photographs.

Academic Technology
Unsurprisingly, all of the students we met used technology for their academic work. Some were very sophisticated: a Hunter student described converting and uploading course readings to his Kindle; a BMCC student described loading her instructors' PowerPoint course slides onto her Nook; a Bronx CC student mentioned that he used file-sharing (torrenting) software to download required course readings from the internet. Many relied on USB drives in their travels between

campus, workplaces, and (sometimes multiple) homes; the calendar available on cellphones and smartphones was a popular strategy for reminders and time management. Of course student strategies for research and writing involve technology: all use computers for research, but students may not be using those tools to their greatest capacity. While some relied on both Google and library sources, others did not.

Locations

The locations that students use for academic work with technology on campus include library spaces with access to electrical outlets -- students who preferred study carrels for their privacy appreciated the opportunity to plug in there, too. Some students noted that there were "secret" computer labs, perhaps associated with specific programs like SEEK, that were off the beaten path and tended to be less crowded. Student study locations at home were more varied: most students we spoke with lived with family members or others, and home usually involved shared spaces or technologies. Students also spoke about their commutes -- most were around 45-60 minutes each way, though some were longer. Some students, as can be seen in this drawing, were able to use the commute to work, though others were constrained by noise, crowding, and other aspects of the commute.

"Sometimes I type papers on my cellphone"

This quote from a City College student is perhaps the ultimate example of the intersection of academic work with technology and commuting, and was very surprising to us. She was not the only student who mentioned this, and we also heard from faculty who received emailed assignments with the notation "sent from my phone" at the bottom. Even students who owed laptops typically would not bring them to campus: saying they were too heavy to carry all day, and that they weren't comfortable using laptops on the subway because of security concerns (and of course there's no internet access in most of the subway, either).

Frustrations

The students we spoke with described many of their frustrations with access to space and technology for their academic work on campus. Printing was a huge bottleneck for students -- few had printers at home, and students described long lines and photographed signs announcing that printers were down. Other students noted long lines at the photocopiers. Still others were frustrated by fellow students using computers in labs and libraries for non-academic work, or the noise generated by other students hanging out rather than studying. Few students were comfortable asking their peers to lower their voices or cede their computers to others who needed them for academic activities.

Distractions

Students often struggled to do their academic work at home. There were many distractions: people (siblings, children, other family members), TV, videogames. Students also described their shared use of technology at home; the family computer located in the living room next to the TV and shared by all household residents was common. Some had inadequate spaces at home for studying: many did not have a desk, so studied at the kitchen table or on their beds. One student photographed the hallway outside of her apartment door where she would go to escape the noise of the small children she lived with. A few of the students we spoke with had no computer and/or internet access at home.

The Take-Away

Processes

We gleaned lots of detail about student technology use from students describing their research processes, as these drawings illustrate. Students are moving between different technologies and between print materials and technology, with interjections (feedback, peer review) from other people along the way. Again, some are very tech-savvy, and are making the most of the technologies they have access to.

However, most are cobbling technology solutions together as best they can given the constraints of their particular situation. While access is certainly improving, the digital divide still exists for our students at CUNY, and the idea of the "digital native" is not wholly true. There is a disconnect between how much students use technology and how much time they spend online, and their skill in using technology to support their academic (and later professional) lives and experiences.

Students *don't* always have the right tools. We cannot assume that all of our students arrive on campus with the latest technologies or the skills to use them, or that they will adapt quickly to new technologies simply because they have grown up in the "digital age." It is a disservice to students if we don't provide the best basic computing and internet infrastructure we can on campus, and don't give them a fair chance to positively experience technology instead of encounter difficulties and frustrations. This access and experience will affect students' lives as workers and citizens after they graduate, and is perhaps especially pressing for traditionally underserved students, who will potentially graduate with less experience with technology than their more privileged peers (who both began college with more tech experience and had more tech access in college).

Our campuses -- especially those with less physical space and computer/printing access -- would do well to find ways to increase access to and experience with technology for students when possible. While many technology solutions carry a hefty price tag or are difficult to implement for other reasons (e.g. expanding campus space in a densely-populated city), some ideas for smaller/easier solutions include:

- enforce noise rules in computer labs, and find ways to ensure that students who need computers for academic work can have access
- provide quiet/silent spaces for student work in libraries
- start or expand laptop (or other technologies) loan programs, perhaps library-based

Ultimately we want our students to be able to focus on being students, and not on logistics.

Local campus technology entanglements and possible solutions to them can be effectively and productively explored with the students themselves -- their direct input can mean making decisions *with* students not just *for* them. Also including students (perhaps via student government?) can help students better understand the financial and logistical constraints the colleges are under in trying to "solve technology problems."

Thank you.