Sources for Understanding Undergraduate Student's Use of Technology

Kevin R. Guidry
Indiana University
krguidry@gmail.com

In *Exploding a Myth: Student Affairs' Historical Relationship with Technology*, I asserted that "there is little [historical] evidence…that student affairs administrators and researchers regularly and systematically sought to understand how and why students used technology and the impact on their development" (Guidry, 2008, para. 7). Although the evidence supports that statement, in recent years researchers and administrators in research centers, professional organizations, and administrative departments have begun collecting, analyzing, and publishing reliable data about students' use of technology. In this article, we introduce some of the more prominent sources of information and describe how one could use them.

Major Sources

Pew Internet & American Life Project

Before narrowing our focus to higher education, it is useful to consider the larger context. In the United States, the Pew Internet & American Life Project (Pew Internet) is one of the largest and most respected efforts to understand the role of the Internet in the lives and activities – civic, family, work, and educational – of Americans. Pew Internet regularly conducts research on different topics using random digit dialing telephone surveys. Although their research agenda is wide, some of their research has focused specifically on college students, most notably their influential 2002 report *The Internet Goes to College: How Students are Living in the Future with Today's Technology* (Jones, 2002). Given the changing demographics of higher education in America, the broadly-focused research produced by Pew Internet is important for higher education scholars and practitioners who should be concerned not only with young people who may be beginning their college experience but also older and diverse populations also beginning or continuing their education.

EDUCAUSE Center for Applied Research (ECAR)

Narrowing our scope to undergraduate students brings us to the *ECAR Study of Undergraduate Students and Information Technology*, the most comprehensive source of information about undergraduate students' use of technology. EDUCAUSE's research arm, the EDUCAUSE Center for Applied Research (ECAR), has for four years conducted this in-depth study of how American undergraduate students "use and think about information technology (IT)" (Salaway & Caru, 2008, p.5). The most recent study included a survey of 27,864 students at 103 institutions supplemented by focus groups with 50 students at four institutions. The survey instrument used by ECAR includes questions about students' ownership and use of electronic devices and their use of technology in coursework. Although most ECAR studies are only accessible to subscribing institutions or those who purchase the materials, this study is available to the public for free.

ECAR's study is notable as the most comprehensive and relevant study of undergraduate technology ownership and usage. Although it is fairly new, it is supported by a very well-funded and organized professional organization with a substantial history and large membership. At the national level, this study should be one the first sources to which higher education scholars and practitioners turn.

CIRP and NSSE

The Cooperative Institutional Research Program (CIRP) and the National Survey of Student Engagement (NSSE) are national studies that focus on undergraduate students and their experiences and attitudes. In contrast with ECAR's study of undergraduate students, neither the CIRP nor the NSSE focus significantly on information technology as both surveys only include a small number of questions related to technology. The strength of these surveys, however, lies in the (a) immense number of students and institutions that participate and (b) rigor of the surveys and subsequent analyses. Together, these properties make it possible to cautiously generalize the results beyond the students and institutions who participated.

CIRP is a longitudinal study composed of a series of studies conducted each year by UCLA's Higher Education Research Institute. Over 12 million students at about 1,900 institutions have participated in CIRP surveys since the project was launched in 1966 by the American Council on Education. Unfortunately for us, only a few questions in CIRP surveys ask about technology use. However, a new question was added in 2007 to one survey specifically asking students how many hours per week they spend using "online social network" indicating some level of interest in keeping the survey up-to-date and relevant with respect to students' use of technology (Higher Education Research Institute, 2007).

Similar to CIRP in size and rigor is the National Survey of Student Engagement (NSSE) hosted at Indiana University's Center for Postsecondary Research. More than 1,300 baccalaureate-granting institutions have participated in NSSE since its launch in 2000; nearly 480,000 students participated in the most recent survey conducted in the spring of 2007 (National Survey of Student Engagement, 2008). Similar to the CIRP surveys, NSSE surveys include only a handful of questions specifically related to technology. In addition, NSSE staff and participating groups of institutions often administer several unique sets of questions in addition to the standard survey instruments and some of these questions focus or include questions related to student use of technology.

<div align="center">Other Sources</div>

EDUCAUSE Core Data Service

Although it focuses primarily on institutional practices, organization, and resources, some information related to students' uses of and expectations for technology can be gleaned from EDUCAUSE's Core Data Service (CDS). The CDS is a survey conducted each year; 994 institutions participated in 2007. Although the survey's main purpose is to allow participating institutions to create ad hoc reports comparing custom-made groups of institutions, some data about students and related practices are published in the publicly-available summary reports. For example, in ECAR's 2007 study of undergraduate students, nearly all respondents indicated a desire that institutions issue students e-mail addresses. The summary report of the 2007 CDS shows that 95% of institutions are meeting that desire (Hawkins & Rudy, 2008). Similarly, since the CDS asks institutions to estimate the percentage of students using their own computers, one can compare those responses with data from other studies to gauge how closely institutional expectations and observations match realities.

Profile of Today's College Student

With their partners at Student Voice, NASPA annually conducts the Profile of Today's College Student survey. A broad survey with multiple independent sections, the Profile is designed to capture descriptive information about undergraduate students (NASPA, 2008b). Over 35,000 students at 46 institutions participated in the 2008 administration (NASPA, 2008a, 2008c). In the context of this discussion, the primary strength of this survey is the section focusing specifically on technology use, a section completed by nearly 13,000 students in 2008 (NASPA, 2008d). In the 2008 version of this

survey, the technology section asked 30 questions ranging from technology ownership and Internet usage to students' perceptions and beliefs about their accountability for online actions.

Local Efforts

Although these large surveys and research projects are useful, they almost certainly do not capture all of the data unique and interesting to your own campus and students. The major strengths of the large surveys and projects – rigor and consistency (to enable comparisons between institutions) – make them somewhat inflexible and slow to change. This makes it particularly difficult to rely on these surveys to capture and understand new phenomena. Although there is significant value in participating in one or more of these surveys or keeping a close eye on their published research and findings, institutions must still conduct their own local research and assessment. These local efforts may take the place of participation in these national efforts, fill holes in the national efforts, or explain and further explore findings discovered in the national efforts to contextualize the findings in the specific culture and setting of your campus.

Example of Usage

To draw all of this together, let us consider a specific example. Social network sites (SNSes) like Facebook and MySpace have been growing in popularity for several years. But just how popular are they among today's undergraduates? Let us look at some of the sources described above to see how one might go about answering this question.

First, for students to make any use of SNSes they must (a) own or have access to a computer or Internet-enabled device and (b) have access to the Internet, preferably high-speed access in their home. The most recent (fiscal year 2007) EDUCAUSE CDS summary report tells us that at the institutions that participated in the CDS, most students own their own computer and those students living on campus have high-speed Internet access in their residence halls (Hawkins & Rudy, 2008). So it is possible for many of our students to use SNSes but do they?

Several of the national surveys and research efforts specifically address student use of SNSes. In ECAR's 2007 study of undergraduates' use of technology, 81.6% of respondents reported that they use SNSes with most of them using SNSes daily (Salaway & Caruso, 2008). The 2007 CIRP Your First College Year survey also specifically asked students about SNS use. 94% of the respondents reported spending at least some time using SNSes in a typical week with the majority spending between one and five hours using SNSes in a typical week (Higher Education Research Institute, 2007). Respondents to the 2008 Profile of Today's College Student survey also indicated that they frequently use SNSes with over half of the nearly 13,000 respondents to the technology portion of the survey indicating they use SNSes more than five times each week (NASPA, 2008d).

What does all of this tell us about our own students? The statistics from the national surveys are aggregate statistics and they may not hold on our own campuses. Many of the national surveys are not only explicit about this limitation but they also point out how respondents to their specific survey differed from one another in significant ways. For example, EDUCAUSE warns in the Core Data Service summary that there are significant differences in computer ownership between students at different types of institutions, most notably students at public and private institutions (Hawkins & Rudy, 2008). Similarly, HERI researchers note that their data indicate that male respondents reported using SNSes less frequently than female respondents (Higher Education Research Institute, 2007).

The University of Michigan demonstrates how one can pursue this particular question beyond the data collected through national surveys. As the University of Michigan participated in the 2007 CIRP Your First College Year survey, student affairs scholars and administrators at Michigan knew that SNS

usage was high among Michigan's entering first-year students since over half of the survey respondents reported using SNSes for 1-5 hours during a typical week with nearly 13% using SNSes for six or more hours. Michigan's staff in Student Affairs Research pursued this topic further with local research to further explore and explain how and why Michigan students use SNSes and online communities. This original local research yielded important additional data and some data that differed from the national data. For example, in contrast to the national data where many respondents indicated that they do not use SNSes, nearly all (99.6%) respondents to the Michigan surveys have a Facebook account (Matney, Borland, & Cope, 2008). Using local surveys, University of Michigan researchers were able to delve deeper into this topic and ask important questions not asked in the national surveys, including exploring the reasons why Michigan students use SNSes.

We could further enrich our analysis if we were to briefly turn our attention to research outside of higher education to consider American youths and their usage of SNSes, the Pew Internet & American Life Project tells us that over half of all online teens aged 12-17 have created profiles in SNSes (Lenhart, Madden, Macgill, & Smith, 2007). Although these young people may not have been undergraduates when Pew Internet initially conducted their research, many of them likely are undergraduates now or will be undergraduates in the coming years. So it is important for us to pay attention to research conducted on and with youths, young adults, and others outside of higher education to understand and predict our current and future students.

Table 1: Summary of sources

Name	Responsible Organization	URL
Pew Internet & American Life Project	Pew Internet & American Life Project	http://pewinternet.org
ECAR study of undergraduate students and information technology	EDUCAUSE Center for Applied Research (ECAR)	http://connect.educause.edu/Library/ECAR/TheECARStudyofUndergradua/45075
Cooperative Institutional Research Program (CIRP)	Higher Education Research Institute, UCLA	http://www.gseis.ucla.edu/heri/index.php
National Survey of Student Engagement (NSSE)	Center for Postsecondary Research, Indiana University	http://nsse.iub.edu/index.cfm
EDUCAUSE Core Data Service	EDUCAUSE	http://net.educause.edu/coredata/
Profile of Today's College Student	NASPA	http://www.naspa.org/divctr/research/profile/default.cfm

Conclusion

Those interested in understanding undergraduate students' use of technology have many contemporary reliable national resources. Several professional organizations and higher education research centers regular gather, analyze, and release useful, pertinent, and interesting data. Despite their scale and rigor, those large projects usually do not gather data unique to each institutional context and they are no substitute for local research and assessment, particularly qualitative research. Together, national and local research and assessment can provide a clear and compelling picture of your students' use of technology.

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